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TECHNICAL REPORT  
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# THE RELATIVE ACCEPTABILITY AND CONSUMPTION OF THE CURRENT AND PROPOSED VERSIONS OF THE T RATION

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<b>13. ABSTRACT (Maximum 200 words)</b> A two week field test was conducted to assess the impact of the FY89 and FY90 versions of the T Ration menu on ration acceptance and consumption, body weight, and hydration status. Two companies of soldiers were studied at the Pohakuloa Training Area, Hawaii. One company of soldiers was issued the FY89 T Ration menu (complete 14-day cycle) while the other received the FY90 version (complete 10-day cycle & 4-day repetition). Soldiers were served the T Ration for breakfast and dinner and were given an MRE VIII lunch. Average weight loss was less than 1.5% of initial weight and, on average, 15% of soldiers were not adequately hydrated. The majority of T Ration items were liked slightly or better. Ration consumption averaged approximately 2900 calories (kcal) per day which is at the low end of the MRDA (2800 to 3600 kcal). For the majority of nutrients, soldiers consumed at or above the recommended levels. Neither ration acceptance, ration consumption, body weight loss, or hydration status differed as a function of T Ration version. In comparison to a 1985 test using an earlier version of the T Ration, soldiers in this test gave the rations more favorable ratings, showed a modest increase in T Ration consumption, and were less frequently dehydrated. This field test documented that the T Ration has improved, and suggested areas for continued improvement (e.g., breakfast entrees).																	
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## Preface

The data for this report were collected by investigators from U.S. Army Natick Research, Development and Engineering Center during the 25th Infantry Division's "Thunderex 2-90" training exercise. Data collection took place during the period 23 April - 6 May 1990 at the Pohakuloa Training Area (PTA) on the island of Hawaii. This report encompasses nutrient and water intake, ration acceptability, and human factors issues related the use of T Rations and the Meal, Ready-To-Eat (MRE). These were evaluated by the Soldier Science Directorate (SSD), Natick, with support from the US Army Research Institute of Environmental Medicine (USARIEM), under Project No. 1L162786AH99.

Human subjects participated in this study after giving their free and informed voluntary consent. Investigators adhered to AR 70-25 and USAMRDC Regulation 70-25 on Use of Volunteers in Research.

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Finally we express gratitude to the officers and soldiers of the 25th Infantry Division Artillery for their support and cooperation through all phases of the study, from initial planning through final completion of data collection. In particular we wish to thank MAJ Maxwell DeSosa, CPT Steven Apland, CPT Randall Lee, CPT Alan Phillips, 1SGT Murray Gant, 1SGT Roberto Longoria, SSG William V. Murray, Jr., and CPL David L. Evans, Jr.

## THE RELATIVE ACCEPTABILITY AND CONSUMPTION OF THE CURRENT AND PROPOSED VERSIONS OF THE T RATION

### I. Introduction

The T Ration contains single menu items packed separately into rectangular metal cans half the size of a standard steam table opening. These individual Tray Cans hold 12 to 18 servings of an entree, vegetable, starch, bread, or dessert. The FY89 T Ration provides a 14-day cycle, while the FY90 version provides a 10-day cycle, both with two meals a day (the third being MRE's or another ration). The thin, flat-tray shape allows more rapid heat processing compared to standard round cans, thus reducing processing time and improving quality. The individual Tray Packs can be heated in a variety of ways, including while on the move. This enables a minimum number of food service personnel to quickly transport a hot meal to the front lines and distribute it by serving right out of the cans (Meyer and Klicka, 1982).

Early acceptance tests with the initial versions of the Tray Ration produced promising results. In 1984, a test at Eglin Air Force Base in Fort Walton Beach, FL was conducted for 4 days, testing 19 different menu items, 13 of which garnered scores above the neutral point of 5.0 on the 9-point hedonic scale. A similar test was conducted with Marines at Fort Bragg, Fayetteville, NC and with soldiers at Camp McCall, Fayetteville, NC (Edelman, 1984). Based on this acceptance testing, the Armed Forces Product Evaluation Committee (AFPEC) gave approval to the T Ration system,

and Tray Packs became available for procurement in FY85. Seventeen additional Tray Pack items were tested under simulated combat conditions the year following the initial field test (Kluter and Stretch, 1985) and 13 more the year after that (Stretch and Kluter, 1986). As a result of all these tests, 9 menu items were deleted from the program, and 64 menu items became standard (Gagne, Kalick, and Kluter, 1988). The ration meal module was configured with enough Tray Pack menu items, condiments, and disposable eating utensils to feed 36 persons one meal. The end result was two fiberboard containers which, when full, weigh up to 96 pounds together (Hill, Drago, and Nelson, 1987).

Though field acceptance testing was quite extensive on these older versions of the ration, it is important to note that the menu was more limited then, particularly in having very few breakfast entrees. And in most of the tests just cited, the troops did not have the opportunity to sample the entire menu cycle--they just tried a limited number of items for a few days. In typical field use of the ration in the past, for instance, only a few different menu items have been served, some of them repetitively over a short period of time. This means that those troops were unable to evaluate the T Ration as a complete field feeding system; they were unable to address the issue of menu variety over a span of time, for example.

To date, the only field test of the T Ration during an operational exercise occurred in 1985 (Combat Field Feeding System, Vol. I, II, and III). This test occurred at the Pohakuloa Training

Area in Hawaii, the site for the current study, and also studied 25th Infantry Division DIVARTY troops, the same as in the current study, as well as other units. In this study, a number of alternative rations were each fed to the troops for a fixed period of time and various measures of consumption were contrasted. Troops on the T Ration consumed between 34 and 65% of the food served them, their overall acceptability ratings for the ration hovered around the neutral point, and their nutrient intakes generally met the Military Recommended Dietary Allowances (MRDA). However, intake data were not available for all nutrients. Several recommendations made for improvement as a result of the Combat Field Feeding System (CFFS) test in 1985 have been introduced but not yet evaluated under field conditions. These include, for example, recommendations to increase the variety of breakfast entrees and starches, make oatmeal and other cereals available, include some high-calorie desserts and increase portion sizes of dinner entrees, increase calcium content but reduce sodium and fat content in the T Ration, increase the number of paper cups available, and add milk and bread to the T Ration.

The current study was intended to be a comprehensive field test to assess the acceptance of the newer T Rations and the impact of the new T Ration field feeding system on total food consumption, macro- and micro-nutrient intake, body weight changes, and hydration status. Of particular concern was whether the changes based on the 1985 CFFS study have improved the acceptance of T Ration feeding in the field. The FY89 and FY90 ration systems were



evaluated, with troops having the opportunity to sample all the menus in a given cycle. The FY89 T Ration cycle is 14 days, while the FY90 cycle is 10 days. The menu cycle in the FY90 version was reduced to 10 days not because troops preferred less variety, but because of concerns about the ability of manufacturers to keep the military supplied with so many different menu items. In developing the FY90 version, some menu items, particularly the less popular ones, were deleted, while newer ones were introduced. A direct comparison of these two menus not only provides a critical data base about the acceptability and consumption of the T Ration but also addresses whether the additional length of the menu cycle in the FY89 14-day plan enhances acceptance and consumption.

## II. Objectives

The purpose of this field test was to evaluate the FY89 and FY90 versions of the T Ration to provide data for a determination as to which should be procured for future use. There were several specific issues to be addressed in this test:

1. Do the newer T Rations show improvements over the 1985 system in meeting the Surgeon General's Military Recommended Dietary Allowances (MRDA) for protein, vitamins, minerals, fat, and energy for operational rations?
2. Will troops subsisting on the current T Ration and lunch-time MRE consume more calories and lose less weight than in the

1985 study?

3. Do the newer T Rations support soldier hydration better than the earlier versions?

4. Are troops eating the current rations more satisfied with them than the earlier versions of the Tray Ration? Are the new menu items considered superior to the ones they replaced? Does the FY90 version produce different consumer satisfaction than the FY89 version? Which version has better perceived taste and/or quality? Does the shorter menu cycle in the FY90 version diminish perceived acceptability?

5. Have the changes introduced into the system since the 1985 Combat Field Feeding System study (1986) helped overcome the weaknesses found at that time? For example, is the ration hot enough when troops get to eat it? Are the serving sizes appropriate? Do problems remain with serving the T Ration in the field?

### III. Methodology

#### A. General Considerations

1. The major concern when considering any ration system is whether troops in the field will consume it in sufficient quantity to maintain satisfactory performance during the operational mission. Therefore, this data collection effort focused intensively on gathering valid measures of ration consumption. The other dependent measures either served as validation of the food

intake measures (e.g., body weight changes) or as sources of information for understanding why intake was not adequate (e.g., food acceptance, focus group responses, urine specific gravity). These various measures will provide valuable sources of information for future product improvements.

2. The test attempted to monitor as closely as possible the effects over time of consuming the T Ration on field troops. For this reason, all non-issued food was forbidden, and unit leaders ensured that participating troops had no access to contraband items during the test.

3. The data collection schedule and its intensity were coordinated with the participating units and kept as brief as possible so as not to interfere with their training and exercise evaluation.

#### **B. Test Site**

The test site was the Pohakuloa Training Area (PTA) on the island of Hawaii. This is a remote, rugged site which makes such tests realistic and precludes most outside food sources. Furthermore, the climate is temperate, which provides the purest test of rations without the complicating influences of factors like extreme hot or cold temperatures which might induce dehydration, thus affecting ration consumption.

For the actual climatic conditions during the 14 days of the study, consult Table 1.

---

Table 1. Climatic Conditions During the Field Test.

<u>Day</u>	<u>Temperature Max</u> <u>(degrees Fahr.)</u>	<u>Minimum</u> <u>(F)</u>	<u>Precipitation</u> <u>(in.)</u>	<u>Wind Speed</u> <u>(mph)</u>
1	73	37	0	28
2	73	47	0	25
3	73	40	0	22
4	68	42	T	18
5	72	42	T	--
6	*	*	*	*
7	*	*	*	*
8	70	40	0	--
9	70	37	0	--
10	70	42	0	--
11	69	40	0	--
12	68	38	0	--
13	74	37	0	20
14	64	40	0	17
Mean	70.3	40.2		

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\*Data not available for one weekend in April.

### C. Test Subjects

The troops tested were two companies of regular Army soldiers from the 25th Infantry Division, which routinely engages in long-term field training exercises at the PTA. For breakfast and dinner each company was fed exclusively one of the two versions of the T Ration (with MREs for lunch) for the duration of the study. An intact company was chosen as the test unit for three reasons. First, the number of troops in a typical company far exceeded the number of subjects required to detect meaningful differences in the dependent measures (see Table 3). Second, exchanges of different rations or feelings of relative deprivation from comparing the others' ration could be kept to a minimum by physically separating

the two participating companies. Third, using a company-size element provided an intact chain of command and communication for coordination, scheduling, and data collection.

All the troops in each company were asked to volunteer to participate in the test. At the initial briefing it was explained to the troops that participating in the test simply meant providing us with data on food intake, food ratings, urine samples, and measures of body weight. If they were to fail to volunteer or decide later to withdraw from the test, they would still be fed the same food and participate in their company's training to the same extent as test subjects. However, at their discretion they could withdraw from the data-collection effort without penalty (see Appendix A for a copy of the Volunteer Agreement Affidavit).

#### **D. Test Duration**

A 14-day test duration was chosen for two reasons. First, this allowed the troops to sample the entire 14-day menu cycle of the FY89 T Ration, the longer of the two cycles. Secondly, two weeks was long enough to allow group differences in body weight to develop if the two alternative rations were to produce differential levels of food consumption.

#### **E. Test Design**

Two intact companies engaged in similar, physically demanding training activities participated in this test. Each company was fed one of the two versions of the T Ration as their sole source of

food for breakfast and dinner for 14 days (with the latest version of the MRE, the MRE VIII, for lunch).

#### **F. Dependent Measures**

Table 2 lists the dependent measures recorded in this test, the frequency with which they were taken, and the approximate sample size tested.

Prior to movement of the troops to the Pohakuloa Training Area, a briefing was held for DIVARTY leaders, company commanders and senior NCO's, and food service personnel at Schofield Barracks on the island of Oahu. This briefing emphasized that the purpose of the test was to see if the changes in the ration would improve consumption, and that we did not want them to take any special

---

Table 2. Dependent measures.

<u>Dependent Measure</u>	<u>Frequency</u>	<u>Number</u>
Body Weight	2X (days 1,14) 9X (d1,2,3,8,9,10,11,13,14)	Entire Company 40 Volunteers/Co
Urine Sample	2X (days 1,14) 7X (d1,2,3,9,10,11,14)	Entire Company 40 Volunteers/Co
Food Consumption	Daily	40 Volunteers/Co
Food Acceptability Ratings	Every Meal	40 Volunteers/Co
Human Factors Issues Final Questionnaire	After Last Meal	Entire Company
Focus Groups to Probe Perception of Ration	2X	10 Volunteers/Co

---

measures to encourage food consumption, for these might invalidate the results. The evening before the test began a briefing was held for the troops in the PTA, and the background questionnaire was administered (see Appendix B). During the briefing, the purpose of the test and the data collection procedures were explained to the troops. Data collectors also kept a daily activity log for their subjects and noted any events which might affect ration consumption.

#### **G. Data Collection Procedures**

1. General. Body weight measures and urine samples were taken from all members of the respective batteries on the first and last days of the study. From each battery a sample of the same 40 volunteers was tested on each day of the study according to the schedule in Table 2. All data collectors were trained in portion size estimation and in filling out the various forms prior to the beginning of the data collection period. During the test, one trained data collector was responsible for gathering all measures from the same six to nine people in each company.

2. Body Weight. As indicated in Table 2, body weight was recorded for all tested troops at the beginning and end of the 14-day study. For a portion of the entire sample, about 40 volunteers per company (enough for meaningful statistical comparisons--see Table 3), body weights were also recorded at several key points during the test (Days 1, 2, 3, 8, 9, 10, 11, 13, and 14). The same

**Table 3. Statistical Power Calculations: Expected Variability and Detectable Differences with Various Sample Sizes.**

Type I error = .05

Type II error = .10 (90% power)

<u>Variable</u>	<u>Normal Values</u>			<u>Minimum Detectable Difference</u>
	<u>X</u>	<u>S.D.</u>	<u>N</u>	
Avg Daily Energy Intake (Kcal)	3000	550	20	583
			40	407
			60	330
			100	253
Urine Specific Gravity	1.022	0.006	20	.00636
			40	.00444
			60	.00360
			100	.00276
Body Weight Change (kg)	0.0	1.0	20	1.06
			40	.74
			60	.60
			100	.46
Food Acceptability	5.0	1.5	20	1.59
			40	1.11
			60	.90
			100	.69

individuals were weighed each time so that weight changes could be assessed. The weighing occurred in the morning, prior to breakfast but after the troops had voided. They were weighed in their uniforms after they had removed their webgear and outer garments and had emptied their pockets. Data collectors also noted the type of boot and other clothing worn so that the body weight data could be adjusted according to the weight of these items (see Appendix C for a sample Weight Checklist Form).



Body weight was measured on SECA Compact, Floor Model Digital Scales that were battery operated. Wooden boards were used in the field to level the scales. Scales were professionally calibrated prior to the study and periodically checked at base camp using 25-pound weights.

3. Hydration Status. Urine samples were taken from all troops being tested on the first and last days of the study. Forty volunteers per company provided urine samples on several additional days throughout the test (Days 1, 2, 3, 9, 10, 11, and 14). Water intake (plain water, water added to the MRE, and T Ration beverages) were recorded throughout the study (see appendices D, E and F). Hydration status was assessed by measuring the urine specific gravity (USG) of aliquots of the first void of the morning, using the Atago UR-1 Urine Specific Gravity Meter and Digital Refractometer.

Acute measurements of hydration status help to determine the net balance between total water consumption and total body water loss. When assessed over a span of several days, these measurements aid in differentiating between a change in body mass due to caloric deficit and a loss in total body water. Total water consumption equals the amount of water intake from foods, plain water, and other beverages. Total body water loss equals the amount of water liberated in expired air, sweat, urine, and feces. USG values quantify the concentration of electrolytes and other solutes in urine. Optimally hydrated individuals usually have USGs in the range of 1.020 to 1.022, while specific gravities equal to

or higher than 1.030 are considered indicative of hypohydration (Leithead and Pallister, 1960; Minard, Grayeb, Singer, and Kingston, 1961).

4. Food Consumption. Daily measures of T Ration and MRE consumption were taken on 40 volunteers from each company. These troops were trained to use food record cards at a briefing prior to the test, then asked to fill out a food record card for the lunch MRE meal (see Appendices D and E). A trained data collector collected these food records and uneaten MRE components, comparing the food record to the actual returned food and MRE packaging for each subject. The data collector consulted the soldier involved to resolve any discrepancies as soon as possible.

To assess T Ration consumption, it was first of all important to assure that all troops being tested received the same portion size. Thus, prior to testing, food servers were trained to issue standard portion sizes of each menu item. Whenever possible during meal service, the servers were watched by the team leaders to ensure that they were apportioning food according to the established standard. Before the meal, portion size estimates of all menu items were made of each participating soldier's meal. After each meal, how much of each menu item that remained in each soldier's paper plate was estimated by data collectors (see Appendix F for a copy of the T Ration Portion Size Estimation Form).

Data collectors were trained in portion size estimation before the study began. A previous study which compared weighed data to

visual estimation of serving sizes as a proportion of a full serving (the method used for estimation of both T Ration and MRE consumption in the current study) reported only slight imprecision, averaging 13.7 g or about 1/2 ounce per serving estimate (Dubois, 1990; see also Rose & Carlson, 1986).

5. Food Acceptability. The troops were asked to rate each menu item they tried on a standard 9-point hedonic scale where 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely". To familiarize the troops with the rating scale in advance, it was explained to them during the pre-test briefing.

Food acceptability (see Appendix G for sample forms) was assessed at every meal by the same 40 volunteers in each company. This number is large enough to assure sufficient data to make statistically valid comparisons among menu items.

6. Human Factors Issues Final Questionnaire. After the last meal, the entire company was administered a detailed questionnaire (see Appendices H-J) to determine the strengths and weaknesses of the T Ration system from the troops' perspective. This questionnaire also included complete demographic data in order to evaluate whether the test population was representative of the Army.

7. Focus Group to Probe Perception of the Ration. A total of four focus groups (two from each company) were conducted over the course of the 14-day evaluation. Each focus group was composed of ten different volunteers with ranks ranging from E-3 to E-7. One

group from each company met for about an hour around the middle of the study, and the other met for about an hour just before the end of the study, to see if responses would change after additional experience with eating the T Ration. Each group sat in a cluster with a facilitator who asked open-ended questions about the ration and encouraged all members to comment, sharing their good and bad reactions to it. Questions were designed to elicit reactions to the following topics: positive and negative impressions of the Tray Pack items; suggestions for new items and improvements; opinions about the MRE's; concepts of eating meals vs. snacks in the field; reactions to addition of ethnic foods in the rations; and recommendations for designing a field ration. Their comments are summarized briefly and are included in the various sections of this report where applicable. The value of this approach is that sometimes it raises issues and concerns not thought of earlier and hence not included on any study questionnaire.

#### **H. Statistical Analysis**

Since there were two different groups (one company each) with two different treatments (FY89 vs. FY90 T Ration), the differences in each type of dependent measure could be simply assessed through t-tests. On those measures that were repeated over time, a 2-way analysis of variance (group by time) was used to detect whether group differences over time were statistically reliable. For both types of analyses, the standard for statistical significance was  $p < .05$ .

#### IV. Results and Discussion

##### A. Activity Profile

The two batteries which provided subjects for the study had quite different missions, but they had roughly equivalent levels of activity, varying from low to high levels of physical activity over the 14 days. The FY89 study group was a firing battery which frequently changed position and conducted a series of firing missions. The FY90 group was a service battery which also frequently changed positions as it supplied the firing batteries on the line. Details of the daily activities follow in separate sections.

1. Service Battery. Service Battery performed multiple functions that generally required moderate physical activity. Service Battery was composed of three platoons whose respective primary functions were to resupply ammunition, provide logistical support, and to maintain equipment. A small group of officers performed the administrative functions for this battery. In general, only battery members involved in the resupply of ammunition were routinely engaged in high levels of physical activity. The request for volunteers to participate in the T Ration study was not based on job specialty. Test participants included members from each of the platoons and the administrative group.

Activity levels experienced by all members of Service Battery varied during the 14-day test period. High levels of physical

activity were required during portions of days 1, 2, 3, 5, 6, 7, 9, 12, and 13. On these occasions, Service Battery was required to move from garrison to field (days 1 and 12), from one field location to another field location (days 2, 3, 5, 6, 7 and 13), or from field to garrison (day 9). Movement between field sites was particularly strenuous as it required both the dismantling and reassembly of all tents, camouflage nets, and cooking and communication equipment. The highest levels of physical activity were noted on days 3, 5, 12 (after noon), and 13 when Service Battery was required to relocate and engage in extensive maneuvers associated with the FTX. Due to the scheduling of relocation and other FTX maneuvers on days 3 and 5, Service Battery was given its second T Ration meal of the day at noon and provided with MREs for the evening meal. Test participants noted feeling hungrier than usual on the morning of day 4.

Notably low levels of physical activity were reported while Service Battery was located in garrison on the first morning of the test and upon the battery's return during the second half of the study (day 9 afternoon thru day 12 morning). At these times, the breakfast and dinner T Rations were prepared, served, and eaten in dining halls.

The methods used to heat and serve the T Rations for Service Battery were the same in both garrison and field situations. Several cans of the ration were placed in an immersion heater containing pre-heated water for 30-45 minutes before serving. After heating, the ration items were typically removed from the

cans and placed in covered plastic containers. These containers were then set in a hot water bath maintained by an M-2 burner located on the serving line. Non-heated ration items were arranged on adjacent tables so that a single file line of troops was able to proceed through the serving line in an efficient manner. The same three cooks (job experience range: 18 months-6 years) performed all aspects of meal preparation throughout the study. These cooks estimated that they were able to serve approximately 65 people in 30 minutes and expressed general satisfaction with the heating methods available to them during this FTX. Informal polling of the test participants indicated that heated ration items were usually received at temperatures described as warm, or warm to hot. Meals provided in the field cooled quickly after serving.

2. Fox Battery. Fox Battery's primary mission was to provide artillery support which required moderate physical activity on average. Fox Battery was composed of three platoons including a headquarters platoon and two (1st and 2nd) platoons containing the fire teams. In general, the three platoons were in separate locations during field exercises. During the 14 day test period the three platoons were together for half of the meals and apart for the other half. The 40 test volunteers were obtained from the fire teams.

Activity levels varied from high to low during the test period. High levels of activity were principally due to movement from one location to another. Fox Battery moved from garrison to the field on Day 1 and moved from one field location to another on

Days 2, 3, 4, 6, 7, 8, 9, 10, 12, and 13. The Battery moved twice on Day 4. Activity level was low during Days 11 and 14. Other activities performed during the test period included road marches, firing range practice, land navigation, and fire missions. T Ration meals were served for the morning and evening meals with the exception of Day 14 when the second T Ration meal was served at noon.

Fox Battery, like Service Battery, used M2 burners to heat water for preparation of the T Rations. Once the items were heated the cans were placed in a large insulated container (4 cans per container) and taken out singly for serving. The opened cans were placed on a metal table used for the serving line; on some occasions cardboard was placed under the tins to slow the rate of cooling. When the Battery ate as a single group the serving line was set up near the food preparation area and served in a manner similar to that done by Service Battery. When the three platoons were in separate locations food preparation was done at the Headquarters site. Cans were placed in the insulated containers and were sent out to the other two platoons where the food was served in the same fashion as described above. Three cooks (job experience range: 1 to 4 years) carried out the bulk of preparation with assistance from soldiers on KP. The cooks felt that the number of personnel was sufficient when the Battery ate together (feeding 60-80 people in 30 minutes) but that they were shorthanded when the platoons were in separate locations. Like Service Battery, the cooks were generally satisfied with the available



heating methods but felt that they lacked the time and personnel to prepare baked foods or put heated rations in mermite containers to maintain temperature.

## **B. Demographics**

On the afternoon prior to the start of the field study all troops who agreed to participate filled out a brief questionnaire (see Appendices) designed to provide some background demographic information. The results in Table 4 are presented separately for each group. Since the subjects came from two batteries in the same division artillery, it is not surprising that their demographics were quite similar. In both groups, the average subject was male, enlisted, with a rank between E-4 and E-5, about 25 years old, with about 5 years of military service, about 70 inches tall, and weighed slightly over 170 pounds. Over 40% from each group were white and over 40% were black, with most of the remainder being Hispanic in the FY89 group but Asian/Pacific in the FY90 group. They came from all over the country, but mostly from the southern regions. About a third were trying to lose weight. Only a tiny minority (around 5%) had any kind of food allergy or dietary restriction. Overall, the profiles of the two groups were very similar, with the largest apparent difference being that 32% of the FY89 ration group were trying to gain weight, while only 18.8% of the FY90 group were trying to do so.

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**Table 4. Background Information on Study Subjects.**

<u>Item:</u>	<u>FY89 Ration Group</u>	<u>FY90 Ration Group</u>
<b>Rank:</b>		
Average enlisted	E-4.5 (N=71)	E-4.5 (N=44)
Average officer	O-1.5 (N=4)	O-2.5 (N=4)
Average age:	25.4 years	25.6 years
Average length of service:	61.3 months	68.0 months
Average height:	69.9 inches	70.7 inches
Average weight:	171.8 pounds	175.5 pounds
Percent Males:	100.0%	100.0%
Percent Trying to Lose Wt:	30.7%	33.3%
Percent Trying to Gain Wt:	32.0%	18.8%
<b>Ethnic group:</b>		
White:	42.7%	43.8%
Black:	44.0	43.8
Hispanic:	10.7	2.1
Asian/Pacific:	1.3	8.3
Other:	1.3	2.0
<b>Region lived in longest:</b>		
Northeast	6.7%	4.3%
Mid-Atlantic	8.0	8.5
South Atlantic	20.0	29.8
North Central	18.7	14.9
South Central	29.3	21.3
Mountain	4.0	2.1
Pacific	6.7	8.5
Other	6.7*	10.6
Percent with food allergies:	4.0%	6.4%
Percent on a restricted diet:	1.3%	2.1%
Percent avoiding particular foods due to medical reasons:	5.3%	4.3%

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\* Percents responding to each question do not always add exactly to 100.0% due to rounding error.

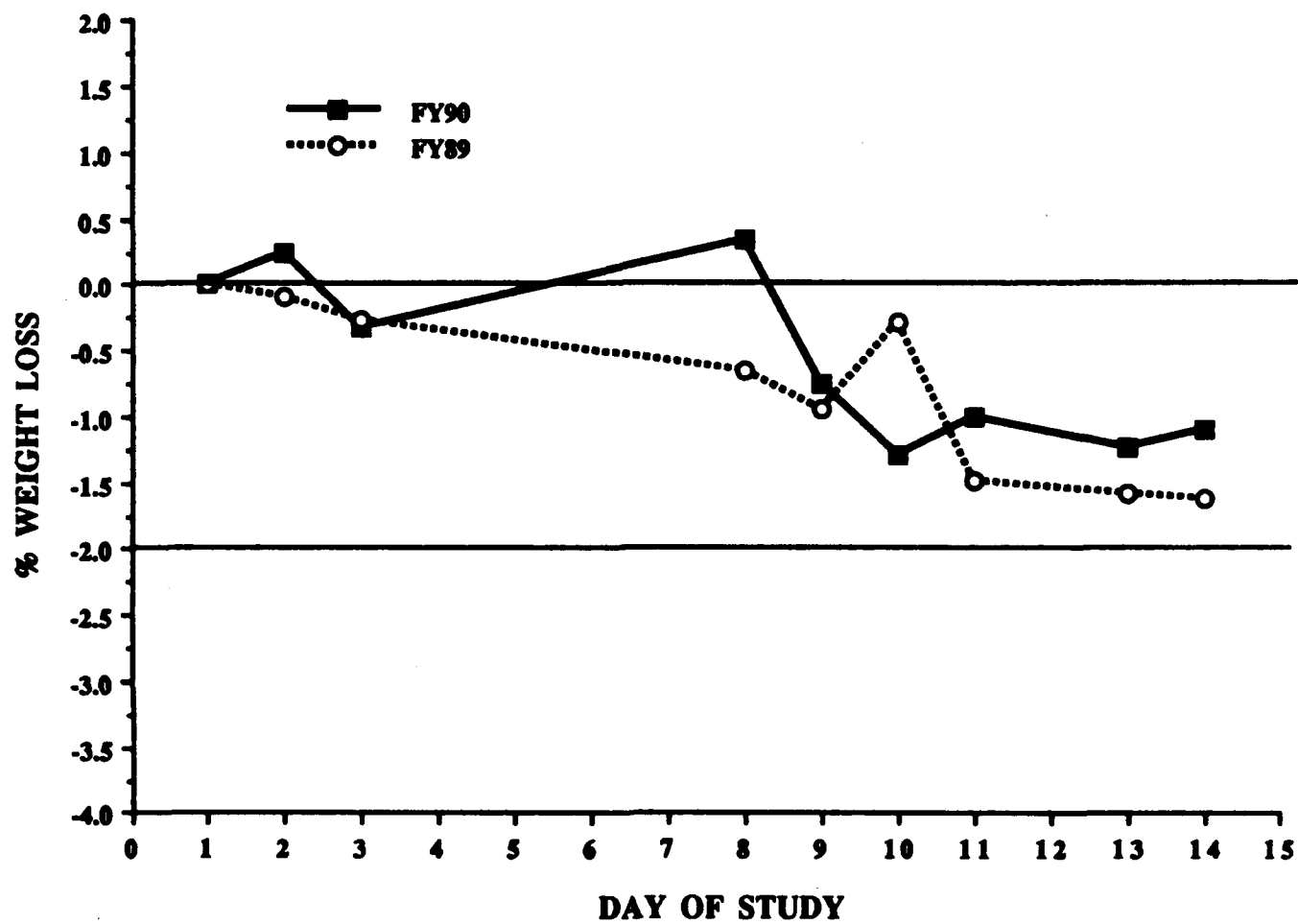
### **C. Body Weight Changes**

Body weight was measured on Days 1, 2, 3, 8, 9, 10, 11, 13, and 14 for approximately 40 soldiers per company (n of less than 40 reflects attrition during the study). The mean weights for each group are provided in Table 5. The weight changes as a percent of

Table 5. Changes in Body Weight During the Study.

<u>Day:</u>	<u>FY89 Mean (N=34):</u>	<u>FY90 Mean (N=36):</u>
1	169.27 lbs	178.63 lbs
2	169.11	179.07
3	168.82	178.05
8	168.16	179.24
9	167.68	177.28
10	168.78	176.32
11	166.74	176.84
13	166.60	176.42
14	166.54	176.67
Weight Lost (Lbs)	2.73	1.96
Per Cent Weight Loss	1.50%	0.99%

starting weight are displayed graphically in Figure 1. As is common in field studies, the troops lost some body weight over the 14-day period. To be precise, the 34 soldiers studied periodically while consuming the FY89 ration lost an average of 2.73 pounds (1.50% of their starting weight), a small but statistically significant loss ( $p < .001$ ). (The entire battery of 73 soldiers lost 2.75 pounds or 1.51% of their starting weight.) The 36 troops weighed periodically while consuming the FY90 ration lost an average of 1.96 pounds (0.99% of their starting weight), also showing a small but statistically significant loss ( $p < .001$ ). (The entire battery of 48 soldiers lost 1.98 pounds or 1.03% of their starting weight.) The two groups did not differ significantly from each other either in actual weight loss or in percent of initial weight lost. The overall average weight loss in this study of roughly 1 pound per week can be contrasted with a somewhat higher



**Figure 1. Percentage of Weight Loss.**

weight loss (8.1 pounds in about 5 weeks) during a field test in which a relatively early version of the MRE was consumed (Hirsch, Meiselman, Popper, et al, 1984). The weight loss of 1-1.5% of starting weight in the current study can also be compared to that in the Combat Field Feeding System (1986) study, in which troops subsisting on two T Rations and one MRE a day for 44 days lost no more than 2% of their starting weight on the average. A third comparison would be with the MRE study of 1986 in which troops lost about 2-3% of their starting weight in 11 days (Popper, Hirsch, Leshner, Engell, et al, 1987). We can conclude, therefore, that on both versions of the T Ration the troops lost weight to a statistically significant, but relatively minor extent and they lost slightly less than troops in previous field studies.

#### **D. Food Consumption**

Food preference and food consumption are related, but they are not the same thing. One might have low preference for a given food, for instance, but consume quite a lot of it for there is no other food available. Conversely, one might have high preference for another food but consume very little due to low availability, insufficient time for eating, or impaired appetite. In general, however, it is expected that if troops are offered more acceptable items, they will eat more. In any event, actual consumption is obviously more important than predicted consumption based on stated preference, for only actual consumption allows the soldier to derive any nutritional benefit from food. Therefore, actual

consumption was determined and the resulting nutrient intakes were calculated for each group. These results are in Tables 6-10.

Specific nutrients were determined by standard analytical methods (Helrich, 1990). Ash was determined as part of the proximate analysis determination of the food items i.e. protein, fat, moisture (water), ash, and carbohydrate (by difference).

1. Breakfast. Table 6 provides the average nutrient intakes for breakfast. On five of the 25 nutrients listed (protein, fat, salt, cholesterol, and vitamin B<sub>12</sub>), the FY90 group consumed significantly more than the FY89 group. On no item was the reverse true. This group difference probably reflects their marginally (but not significantly) greater intake of total food and calories at breakfast. In other words, the FY90 group may have obtained more nutrients because it tended to consume more total food or more of certain foods that were richer sources of the 6 nutrients. The main item in the breakfast menu, of course, is the entree. The mean hedonic ratings of the individual breakfast entrees were correlated with the mean consumption of those entrees. For the FY89 group, this correlation was  $r=0.90$  ( $p<.001$ ), while for the FY90 group, it was  $r=0.76$  ( $p<.005$ ). Therefore, it appears that soldiers actually ate more of the T Ration breakfast entrees which they reported liking more.

2. Lunch. Table 7 provides the average nutrient intakes for lunch. The FY89 group ingested an average of almost 90 more calories per day during lunch than did the FY90 group. Although this difference was not statistically significant, the extra

Table 6. Nutrient Intake from Tray Pack and Accessory Breakfast Items.

<u>Nutrient (Units):</u>	<u>FY89 Mean (SD)</u> <u>(N=36)</u>		<u>FY90 Mean (SD)</u> <u>(N=36)</u>		<u>p</u>
Food weight (g)	917.3	(211)	920.5	(187)	
Kcal	1,004.3	(249)	1,043.8	(224)	
Water (g)	694.0	(168)	697.2	(147)	
Protein (g)	36.6	(11)	41.7	(11)	.048
Carbohydrate (g)	145.0	(34)	135.7	(29)	
Fat (g)	32.2	(11)	37.6	(10)	.037
Ash (g)	4.1	(1.8)	5.0	(1.8)	.044
Calcium (mg)	471.3	(161)	490.5	(121)	
Phosphorous (mg)	672.2	(203)	720.3	(163)	
Iron (mg)	7.5	(2.4)	7.7	(1.6)	
Sodium (mg)	1,776.0	(570)	1,858.8	(501)	
Potassium (mg)	1,314.4	(324)	1,412.7	(328)	
Magnesium (mg)	68.0	(19.8)	59.0	(21)	
Salt (g)	2.2	(1.1)	2.8	(1.1)	.023
Zinc (mg)	4.1	(1.7)	4.7	(1.3)	
Cholesterol (mg)	164.9	(95)	230.6	(94)	.004
Vitamin A (IU)	1,602.7	(549)	1,767.1	(431)	
Vitamin C (mg)	55.0	(19.5)	59.4	(24.3)	
Thiamine (mg)	1.0	(.3)	1.1	(.3)	
Riboflavin (mg)	1.3	(.4)	1.5	(.3)	
Niacin (mg)	11.6	(3.7)	12.5	(3.0)	
Vitamin B <sub>6</sub> (mg)	1.8	(1.5)	1.67	(.9)	
Folic acid (mcg)	134.4	(64)	156.0	(56)	
Vitamin B <sub>12</sub> (mcg)	0.5	(.3)	0.8	(.3)	.000
Vitamin E (mg)	3.6	(2.0)	4.2	(2.0)	

calories consumed related to significantly more nutrients consumed. Out of the 25 items listed in Table 7, the FY89 group had significantly greater intake of 13 nutrients, including several vitamins and minerals, while the FY90 group had more intake only of water. The mean hedonic ratings of the individual MRE entrees were correlated with the mean consumption of those entrees. For the FY89 group, this correlation was  $r=0.84$  ( $p<.001$ ), while for the

Table 7. Nutrient Intake from MRE and Accessory Lunch Items.

<u>Nutrient (Units):</u>	<u>FY89 Mean (SD)</u> <u>(N=36)</u>	<u>FY90 Mean (SD)</u> <u>(N=36)</u>	<u>p</u>
Food weight (g)	323.7 (106)	390.4 (169)	
Kcal	822.6 (215)	733.7 (257)	
Water (g)	154.3 (72)	237.0 (134)	.002
Protein (g)	33.6 (9.5)	26.1 (9.4)	.001
Carbohydrate (g)	96.5 (25.0)	93.5 (39.9)	
Fat (g)	33.6 (9.7)	26.3 (9.7)	.002
Ash (g)	5.3 (1.5)	4.1 (1.6)	.001
Calcium (mg)	320.9 (110)	274.6 (98)	
Phosphorous (mg)	449.4 (136)	380.3 (141)	.038
Iron (mg)	3.9 (1.2)	3.5 (1.6)	
Sodium (mg)	1,266.9 (442)	1,003.9 (433)	.013
Potassium (mg)	677.7 (198)	575.0 (224)	.043
Magnesium (mg)	79.7 (23)	65.5 (26)	.017
Salt (g)	2.5 (.8)	2.0 (.8)	.004
Zinc (mg)	2.4 (1.0)	2.0 (1.0)	
Cholesterol (mg)	79.4 (32)	56.5 (27)	.002
Vitamin A (IU)	1,982.1 (993)	1,503.3 (846)	.031
Vitamin C (mg)	47.0 (19)	45.5 (32)	
Thiamine (mg)	1.4 (.6)	1.2 (.5)	.035
Riboflavin (mg)	0.7 (.2)	0.6 (.3)	
Niacin (mg)	8.8 (3.1)	7.8 (3.3)	
Vitamin B <sub>6</sub> (mg)	1.0 (.5)	0.9 (.4)	
Folic acid (mcg)	55.0 (26)	65.3 (53)	
Vitamin B <sub>12</sub> (mcg)	0.5 (.2)	0.4 (.2)	.002
Vitamin E (mg)	3.4 (1.0)	2.5 (1.0)	.000

FY90 group, it was  $r=0.87$  ( $p<.001$ ). So soldiers did eat larger amounts of the MRE lunch entrees which they said they liked more.

3. Dinner. Table 8 shows the average nutrient intakes for dinner for each group. On the whole, the intakes were quite comparable, with the FY89 group consuming an average of 1,061.5 kcal at dinner and the FY90 group eating 1,102.6 kcal. Out of the 25 items listed in the table, there were significant differences on only 8, of which 6 favor the FY90 group and only 2 the FY89 group.



Table 8. Nutrient Intake from Tray Pack  
and Accessory Dinner Items.

<u>Nutrient (Units):</u>	<u>FY89 Mean (SD)</u> <u>(N=36)</u>	<u>FY90 Mean (SD)</u> <u>(N=36)</u>	<u>p</u>
Food weight (g)	953.6 (230)	977.5 (181)	
Kcal	1,061.5 (232)	1,102.6 (212)	
Water (g)	723.0 (187)	743.9 (141)	
Protein (g)	48.0 (11)	51.2 (10)	
Carbohydrate (g)	139.9 (34)	134.5 (27)	
Fat (g)	34.6 (8)	40.0 (8)	.007
Ash (g)	5.6 (1.4)	5.4 (1.1)	
Calcium (mg)	448.5 (167)	600.0 (158)	.000
Phosphorous (mg)	677.9 (187)	776.7 (170)	.022
Iron (mg)	8.0 (1.8)	7.8 (1.4)	
Sodium (mg)	1,981.0 (451)	1,942.3 (377)	
Potassium (mg)	1,347.5 (354)	1,540.6 (328)	.019
Magnesium (mg)	107.4 (28)	93.5 (22)	.023
Salt (g)	3.3 (.9)	3.2 (.7)	
Zinc (mg)	5.6 (1.5)	5.1 (.9)	
Cholesterol (mg)	85.8 (23)	101.3 (20)	.004
Vitamin A (IU)	3,093.4 (1,501)	2,807.5 (1,287)	
Vitamin C (mg)	29.0 (12.5)	26.6 (14)	
Thiamine (mg)	0.8 (.2)	0.7 (.1)	.041
Riboflavin (mg)	0.9 (.3)	1.1 (.3)	.009
Niacin (mg)	12.5 (2.8)	12.6 (2.9)	
Vitamin B <sub>6</sub> (mg)	0.3 (.1)	0.3 (.1)	
Folic acid (mcg)	94.3 (22)	92.1 (19)	
Vitamin B <sub>12</sub> (mcg)	0.8 (.2)	0.7 (.2)	
Vitamin E (mg)	2.3 (.6)	2.6 (.7)	

The hedonic ratings of the individual dinner entrees were also correlated with the actual consumption of them. For the FY89 group, this correlation was  $r=0.47$  ( $p=.109$ ), while for the FY90 group, it was  $r=0.69$  ( $p=.028$ ). So there was a trend for soldiers to eat more of the T Ration dinner entrees which they said they liked more, but this finding was only significant for the newer ration group.

4. Total Daily Nutrient Intake. The separate nutrient intake data for each of the three meals was combined to calculate the average total nutrient intake per day for each ration group. These results, found in Table 9, are far more important than the exact pattern of intake across the various meals. The overall similarity between groups is noteworthy. Whereas the FY89 group consumed an average of 2,888.4 kcal per day, the FY90 group consumed approximately 8 kcal less, for a total of 2,880.0 kcal. In other words, even though the FY89 group tended toward more calories at lunch while the FY90 group tended toward more at breakfast and dinner, the daily totals came out virtually identical. Out of all 25 nutrient items, there were statistically significant differences on only three: the FY89 group consumed more magnesium, while the FY90 group consumed more riboflavin and cholesterol. Both groups fell below the Military Recommended Dietary Allowance (MRDA) for magnesium, but both fell above the standard for riboflavin. Therefore, the overall picture is one of no major difference between nutrient intakes of soldiers consuming the FY89 T Ration and those consuming the FY90 version. Nutrient intakes expressed as a percentage of the MRDA can be seen in Table 10. Actual intakes of fat and sodium fell, as they should, under the MRDA maximums. The intake of all vitamins and minerals with the exception of magnesium, zinc, folic acid, vitamin B<sub>12</sub>, Vitamin E, and calories met or exceeded the MRDA. This basic pattern of most nutrient intakes exceeding the MRDA was also reported by the Combat Field Feeding System (1986) study, except that they had incomplete

Table 9. Average Nutrient Intake Per Day from All Sources.

<u>Nutrient (Units):</u>	<u>FY89 Mean (SD)</u> <u>(N=36)</u>	<u>FY90 Mean (SD)</u> <u>(N=36)</u>	<u>p</u>
Food weight (g)	2,194.6 (424)	2,288.5 (353)	
Kcal	2,888.4 (525)	2,880.0 (474)	
Water (g)	1,719.8 (541)	1,893.9 (388)	
Protein (g)	118.2 (23)	119.0 (22)	
Carbohydrate (g)	381.4 (71)	363.6 (66)	
Fat (g)	100.5 (21)	103.8 (20)	
Ash (g)	15.0 (3)	14.4 (3)	
Calcium (mg)	1,240.7 (292)	1,365.0 (252)	
Phosphorous (mg)	1,799.5 (394)	1,877.3 (315)	
Iron (mg)	19.3 (4)	18.9 (3)	
Sodium (mg)	5,023.9 (1,018)	4,805.0 (950)	
Sodium (mg/1000kcal)			
All sources	1,739.3	1,668.4	
T Ration meals	1,818.7	1,770.9	
Potassium (mg)	3,339.6 (660)	3,528.2 (636)	
Magnesium (mg)	255.1 (52)	218.1 (54)	.004
Zinc (mg)	12.1 (3)	11.7 (2)	
Cholesterol (mg)	330.1 (126)	388.4 (116)	.045
Vitamin A (IU)	6,678.2 (2,086)	6,078.0 (1,800)	
Vitamin C (mg)	130.9 (36)	131.4 (54)	
Thiamine (mg)	3.2 (.8)	2.9 (.6)	
Riboflavin (mg)	2.9 (.6)	3.2 (.5)	.039
Niacin (mg)	32.9 (6)	32.9 (6)	
Vitamin B <sub>6</sub> (mg)	3.1 (1.5)	2.8 (.8)	
Folic acid (mcg)	283.6 (73)	313.4 (70)	
Vitamin B <sub>12</sub> (mcg)	1.8 (.5)	1.9 (.5)	
Vitamin E (mg)	9.3 (2.8)	9.4 (3)	

information on magnesium, zinc, folic acid, vitamin B<sub>12</sub>, and Vitamin E and could not calculate total daily intakes of these nutrients. The 1986 study also reported inadequate calcium consumption by groups consuming T Rations without supplements. The Improved MRE study (Popper, Hirsch, Leshner, Engell, et al, 1987) also found that magnesium intake was below MRDA (zinc, folic acid, vitamin B<sub>12</sub>, and Vitamin E were not assessed). In addition, that study reported

Table 10. Average Nutrient Intake Expressed  
as a Percent of MRDA.

<u>Nutrient (Units):</u>	<u>MRDA</u>	<u>FY89 % (N=36)</u>	<u>FY90 % (N=36)</u>
Kcal	3,200	90.3%	90.0%
Protein (g)	100	118.2	119.0
% Carbohydrate	50	105.6	101.0
% Fat	35	89.5	92.7
Calcium (mg)	800/1200	155.1/103.4	170.6/113.8
Phosphorous (mg)	800/1200	224.9/150.0	234.7/156.4
Iron (mg)	10	193.4	189.4
Sodium (mg)	5,500	91.3	87.4
mg/1000 kcal	1,700		
All sources		102.3	98.1
T Ration meals		107.0	104.2
Potassium (mg)	1,875	178.1	188.2
Magnesium (mg)	350	72.9	62.3
Zinc (mg)	15	80.7	78.0
Vitamin A (IU)	5,000	133.6	121.6
Vitamin C (mg)	60	218.2	219.1
Thiamine (mg)	1.6	201.9	182.4
Riboflavin (mg)	1.9	154.8	169.3
Niacin (mg)	21	156.5	156.6
Vitamin B <sub>6</sub> (mg)	2.2	139.3	129.4
Folic acid (mcg)	400	70.9	78.4
Vitamin B <sub>12</sub> (mcg)	3	60.0	63.3
Vitamin E (mg)	10	93.0	94.0

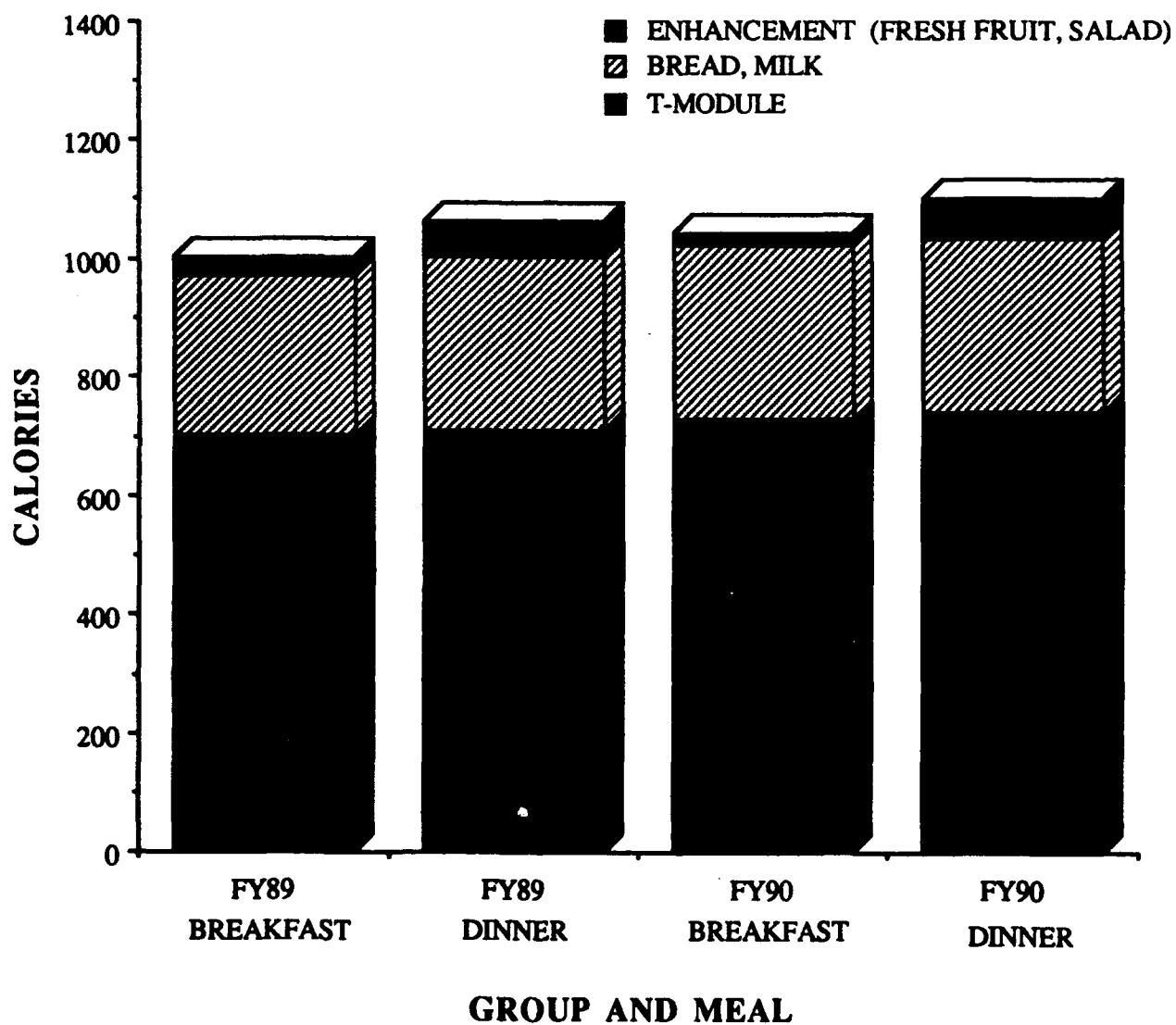
calcium intake was deficient and sodium intake was slightly excessive for troops consuming solely the improved MRE. To solve this persistent problem of low magnesium intake, it is suggested that one of the menu items that is widely consumed, perhaps bread, be fortified with magnesium. Further study should be undertaken to determine whether zinc, folic acid, vitamin B<sub>12</sub>, and Vitamin E should also be fortified.

Given that troops are receiving adequate nutrition from the T Ration as a whole, one question still remains: Is the T-Module

(including items like cereal, peanut butter, jelly, cocoa, etc.) providing most of the nutrition or are troops relying heavily on the various fresh food enhancements? In the current study, the T Modules were enhanced by items like fresh fruit and salad. Fresh bread and milk were also available. Figure 2 provides the proportion of total calories consumed that was provided by each of these menu segments. Figure 3 provides the same data in the form of percentages. Both figures indicate that troops in the current study consumed more total calories than troops in the 1985 CFFS study. As Figure 3 reveals, the basic T-Module provided around 65-70% of the calories, bread and milk provided approximately 30% of the calories, and the enhancements like fresh fruit and salad provided around 5% or less. This study suggests that the additional items are an integral part of the meal, providing approximately a third of the total calories consumed.

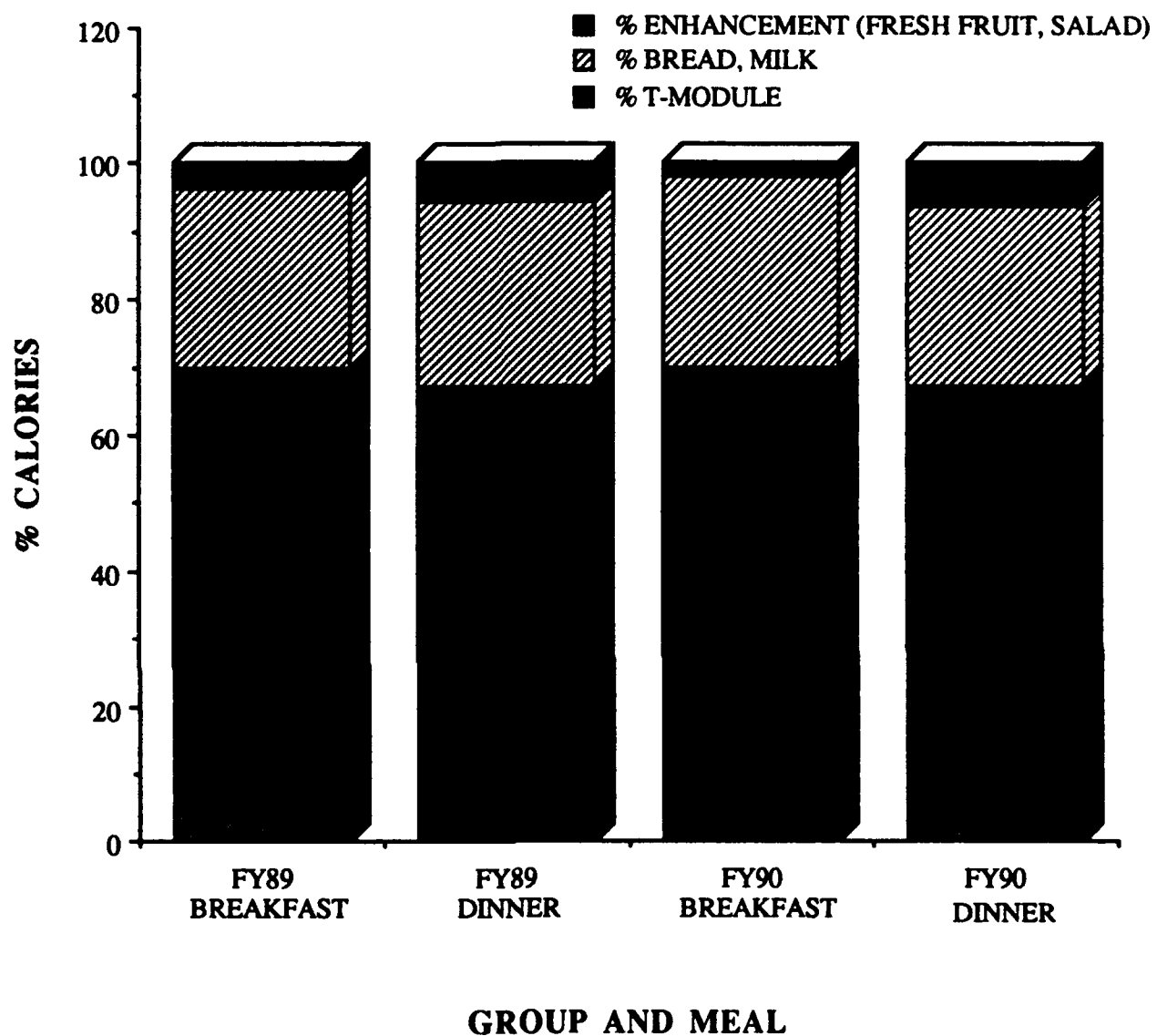
#### **E. Hydration Status**

1. Water Intake. Water intake occurs in several forms. Table 11 shows the average self-reported direct intakes of water. The figures in this table report only the amount of pure water drunk from the canteen. The average intake was slightly over one liter per man per day, and there was no significant difference between group averages (1.19 liters for the FY89 group and 1.37 for the FY90 group). Total water intake, of course, must include other



1985 CFFS: 2T/1 MRE	Breakfast: 836	Dinner: 953
2T(A/B)/1 MRE	Breakfast: 930	Dinner: 906

**Figure 2. Total Calories Obtained From T Module, Bread, Milk and Enhancement (Fresh Fruit, Salad).**



**Figure 3. Percent Calories obtained From T Module, Bread, Milk and Enhancement (Fresh Fruit, Salad).**

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Table 11. Average Direct Water Intake (in liters) Per Day.

<u>Day:</u>	<u>FY89 Group</u>	<u>FY90 Group</u>
1	0.80	1.20
2	1.27	1.56
3	1.63	1.53
4	1.66	1.51
5	1.36	1.61
6	1.21	1.80
7	1.28	1.71
8	1.39	1.77
9	1.37	1.51
10	1.20	1.04
11	1.23	0.90
12	1.31	1.30
13	1.18	1.57
<u>14</u>	<u>1.21</u>	<u>1.33</u>
Overall mean:	1.19	1.37

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beverages like juice and milk as well as the amount of water in the food consumed. Adding these food-related sources of water produces a total average intake per person per day of 2.90 liters for the FY89 group and 3.26 liters for the FY90 group. (This compares to an average daily water intake of over 3 liters in the 1985 CFFS study). Was this water intake sufficient to maintain adequate hydration? Next we looked at hydration status as measured by urine specific gravity.

2. Urine Specific Gravity (USG). Urine samples were collected on Days 1, 2, 3, 9, 10, 11, and 14. On the first and last days of the study, the samples were collected from all subjects in each battery. On the intermediate days, the samples were collected only



from the 40 volunteers in each sample. The samples were then analyzed with regard to urine specific gravity. The differences between the two batteries are displayed numerically in Table 12 and graphically in Figure 4. To interpret the vertical axis of Figure 4, it is important to realize that urine specific gravities roughly in the range of 1.020 to 1.023 reflect adequate hydration status. Increasing specific gravity indicates water conservation, with values above 1.030 generally indicating hypohydration, impending hypohydration, or conservation in the face of insufficient water intake (Francesconi et al, 1987). As the columns in Figure 4 reveal, on most days the values were well within the adequate hydration range, and average values never exceeded the cut-off point for hypohydration for either ration group.

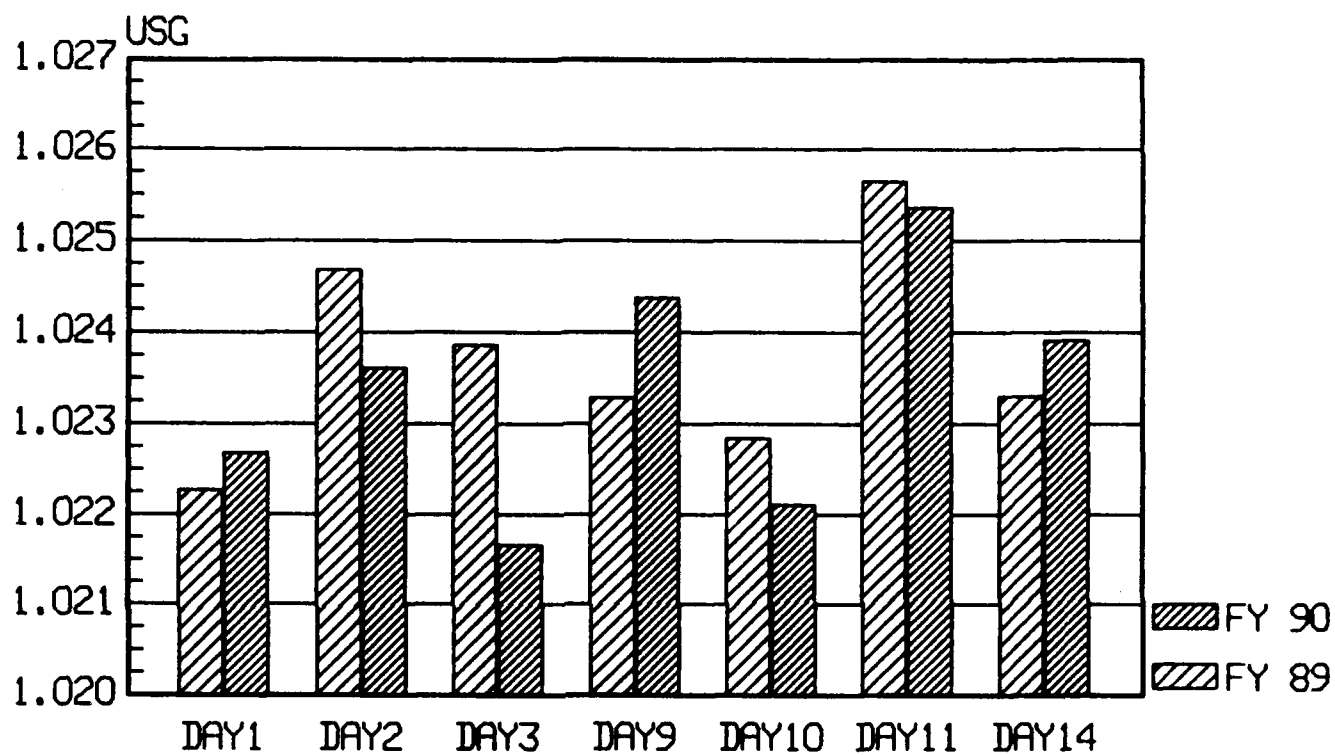
Although column heights in Figure 4 might suggest some minor differences in specific gravity as a function of ration type, a repeated measures analysis of variance (see Table 12) indicated

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Table 12. Mean Urine Specific Gravity Measurements  
by Group and Day.

<u>Day</u>	<u>FY89 Mean (SD)</u>	<u>FY90 Mean (SD)</u>
1	1.0223 (.0056)	1.0227 (.0056)
2	1.0247 (.0046)	1.0236 (.0067)
3	1.0239 (.0054)	1.0217 (.0077)
9	1.0233 (.0043)	1.0244 (.0054)
10	1.0228 (.0055)	1.0221 (.0075)
11	1.0256 (.0055)	1.0254 (.0052)
14	<u>1.0239 (.0062)</u>	<u>1.0233 (.0067)</u>
Overall mean	1.0238 (.0010)	1.0233 (.0012)

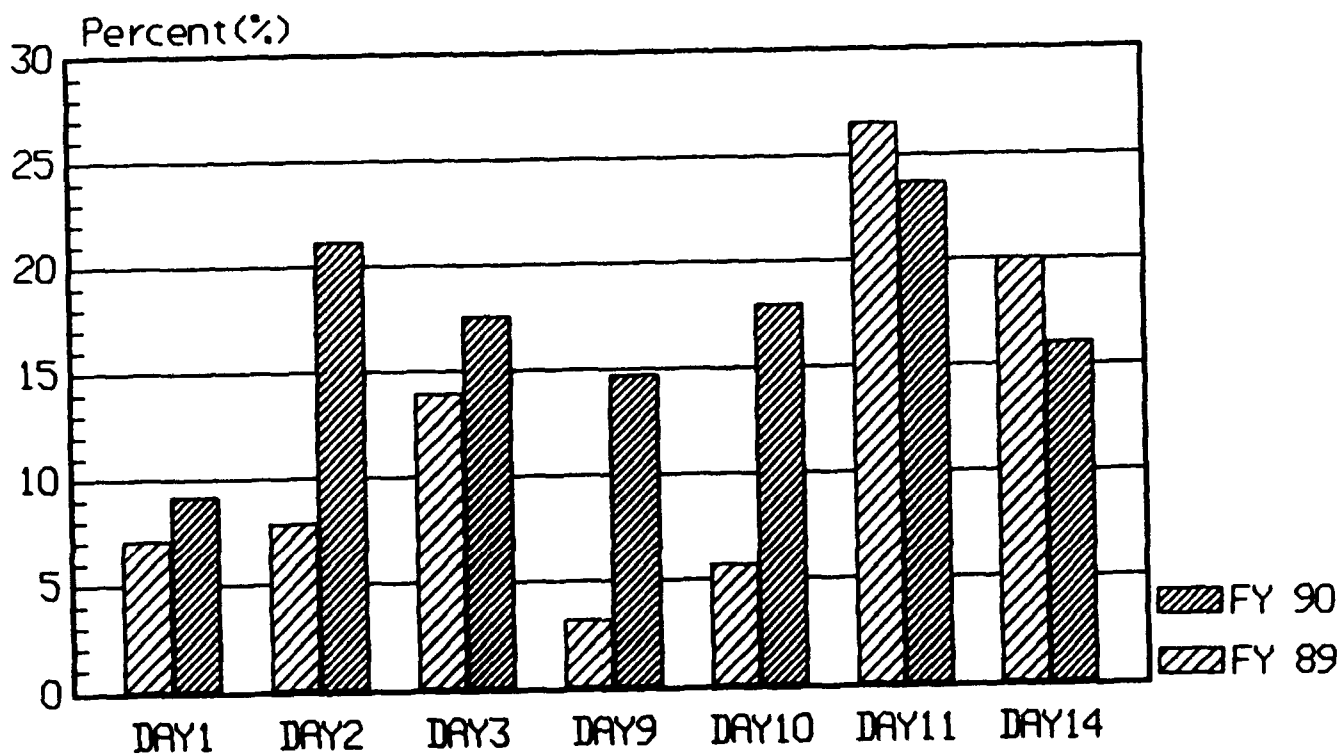
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**Figure 4. Mean Urine Specific Gravity (USG) Measurements for FY89 and FY90 T Ration Groups.**

that there were no significant differences as a function of the version of the ration. Furthermore, the overall group means were almost identical for the two ration groups, with means reflecting values around the 1.023 point, well within the adequate hydration range. (This compares to an average USG in the 1985 CFFS study of about 1.025). These results, therefore, suggest that both groups adequately maintained their hydration status regardless of which T Ration they received.

The problem with group means, however, is that they give no indication of the range of individual scores. Drinking behavior and the resulting hydration status vary among adults (Szlyk et al, 1989). Although neither group mean ever exceeded a USG of 1.030 at any time during the study, on any given day there were some individuals who exceeded this criterion. For this reason, frequency distributions which describe the incidence of USG equal to or above 1.030 provide a better index of water conservation or hypohydration of an entire group than do mean group values. Therefore, we next looked at the percent of each sample which did have urine specific gravities equal to or above 1.030, i.e., indicating insufficient water intake (see Table 13). Figure 5 graphically displays the results, which indicate that on some days there were as many as 20 to 25% of troops experiencing a significant degree of urine concentration. However, chi-square tests indicated that there were no significant differences between the two groups with regard to the percent of troops exceeding this criterion. Though there was no difference as a function of ration,



**Figure 5. Percent Incidence of Urine Specific Gravity  $\geq 1.030$  for FY89 and FY90 T Ration Groups.**

Table 13. Percent of Urine Specific Gravities  
at or Exceeding 1.030.

<u>Day</u>	<u>FY89 Percent (N)</u>	<u>FY 90 Percent (N)</u>
1	7.1% (84)	9.2% (54)
2	7.9 (38)	21.1 (38)
3	13.9 (36)	17.5 (40)
9	3.2 (31)	14.7 (34)
10	5.7 (35)	17.9 (39)
11	26.5 (34)	23.7 (38)
14	20.0 (60)	16.0 (50)
Overall mean	11.9 (318)	16.7 (293)

the overall group means of 11.9% for the FY89 ration group and 16.7% for the FY90 ration group indicate a problem of insufficient water intake still exists among a significant minority of troops undergoing a field training exercise. (This compares to an average in the 1985 CFFS study of 20+ percent with USG greater than 1.03). The days of high relative incidence of urine concentration may have been related to the weather or activity schedules, but no clear pattern emerged.

#### **F. Food Acceptance**

1. T Ration Items. At each meal the same 40 volunteers in each group were asked to rate on the standard hedonic scale each menu item they sampled or consumed. On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely." The various items are divided up into categories, each of which is presented in a table below. The items are ordered in the sequence of descending mean ratings

according to the FY89 sample. The results for breakfast entrees are in Table 14. Of the 12 items common to both menus, there were significant differences by t-test between only two. The FY89 group ranked both creamed ground beef and western omelet slightly more than one point higher than did the FY90 group. In both cases, the FY90 group rated the items around the neutral point (five) on the nine-point hedonic scale. With the exception of 4 ratings on Table 14, all the other mean ratings were on the positive side of the scale. For purposes of comparison, data on the same items from the 1985 study, also done at the Pohakuloa Training Area (Combat Field Feeding System, Vol. 1, 1986) are included in parentheses. Since most breakfast entree items in the current study are relatively new, they do not have ratings from 1985; further, items poorly rated in 1985 were dropped and do not appear in the current study. In 1985, the breakfast entrees ranged in average hedonic rating from 3.8 to 5.3. In the current study, the comparable range is 5.02 to 7.48. On this basis, the new version of the T Ration appears distinctly superior, yet only the creamed ground beef represented an actual reformulation of the recipe. At least part of the improvement may be due to improved knowledge among cooks on how to handle the T Ration for optimum appeal. For instance, rather than serving the omelet as an oblong block, cooks have been reminded that the omelet could be fluffed up so that it more closely resembles eggs. Moreover, in the 1985 study the same items were served more frequently, and a boredom or fatigue factor may have lowered those ratings.

Reactions to breakfast items were similar across all the focus groups. Most of the participants felt that there was not enough variety offered in the breakfast meals since the majority of the breakfasts consisted of omelets of one kind or another and all of them tasted alike. Most of the soldiers indicated the omelets tasted very bland, had an unappetizing appearance, and had a hard and compact texture. Some soldiers also felt the omelets were high calorie and yet not very filling. Several participants mentioned that they'd prefer to have plain scrambled eggs because they don't like to eat pork products. The soldiers felt that if pork was offered it should be served separately so that they had a choice.

To enhance variety, soldiers in focus groups suggested adding the following items to the breakfast menu: pancakes, waffles and french toast with maple syrup, hash brown potatoes, Danish and cinnamon rolls, doughnuts, and cooked oatmeal. Another suggestion was to alternate days between T Rations and freshly cooked food as a morale booster. They recommended that more low cholesterol dishes be offered in all meals. The participants wanted not only more variety served in breakfast foods, but also larger portions, and more freshly cooked foods if time permitted. Being provided with fruit juice, milk, fresh fruits, and dry cereals was seen as a bonus, provided those items were properly prepared and served. For example, several soldiers commented that the shelf-stable milk's taste was much better cold than warm. Also, most soldiers felt that juices were not mixed properly (in general they were too strong and needed more water).

The results for dinner entrees are in Table 15. Out of the 8 items common to both menus, there was only one significant difference between the two groups. The FY89 group ranked beef tips and gravy almost one point higher than did the FY90 group. All the ratings of dinner menus by both groups were above the neutral point. For purposes of comparison, data on the same items from the 1985 study (Combat Field Feeding System, 1986) are again included in parentheses. Counting all the entrees which appeared in 1985, whether or not they had counterparts in the FY89 and FY90 versions, the hedonic ratings of the 1985 dinner entrees ranged from 4.8 to 6.9, with an average of 5.8. By contrast, the average for FY89 was 6.7, while for FY90 it was 6.9, a clear improvement over 1985. For the items that were the same, the newer ratings were almost always higher (with the exception of beef in BBQ sauce). Why such a large improvement? There are several possible reasons. Most of the recipes for the dinner entrees were upgraded and revised between 1985 and 1989. Also, specifications were tightened during this period to ensure compliance by the food companies with the specified formulation of the products. As mentioned earlier, the cooks in the present study were reminded of how to optimize T Ration presentation, and this may have helped. Finally, it is possible that the troops in the present study simply tended to rate field food higher than did those in 1985, perhaps because they stayed in the field for a shorter period in the current study or because they were able to experience the variety of the full menu cycle.



Focus group participants requested that more variety be offered in the dinner menu because if they did not like the entree and the vegetable, all that was left to eat were peanut butter and jelly sandwiches and salad. One suggestion was to make smaller portions within the cans but more and different cans so that more choices could be offered and there would be less waste. Other soldiers commented that generally portion sizes were adequate and filling, yet at times they felt sluggish and lacked energy after eating. A number complained also about constipation and flatulence in the field and were not sure whether it was caused by the Tray Packs, MRE's, or both. Several participants felt that since eating has a strong, and hopefully positive influence on morale in the field, improvements should be made in the appearance and quality of the Tray Packs. Quite a few participants felt that many current Tray Packs did not look like "real" food and that color was a major problem.

The FY90 group was served hamburgers and rolls for dinner and responded very favorably toward them. Soldiers felt that the flavor and appearance was quite good, and having a popular item like hamburgers and rolls was a welcome change.

Some suggestions for additional dinner items included hot dogs, fish (i.e. sole, snapper), ravioli, sloppy joe's, meatloaf, fried chicken, and enchiladas. Other suggestions included: serving better combinations of dishes (e.g., lasagna with vegetables or green salad, not potato salad), fresher garden salad, Caesar salad, and other "interesting" salads, more than one choice of salad

dressing, adding more variety in spices (e.g., garlic, soy sauce, real mustard (not dehydrated), lemon pepper, jalapenos), soups, pizza, barbecued food, Oriental and Puerto Rican rice, offering butter and parmesan cheese, serving larger portions, serving "brown bag" lunches, cold cuts, spreadables like tuna and chicken, and sub sandwiches. Several also suggested adding tea, Gatorade, fruit punch and Nestle's Cocoa instead of a "generic" brand cocoa. (In general they requested that more brand name commercial items of all sorts be included). They also felt that the majority of troops do not drink the coffee and that it is a waste of money (during this study, coffee was selected 14% of the time it was offered).

Soldiers had a positive reaction when asked if they would like to have ethnic foods in the system. The majority felt that introducing them to foods that they've never eaten before might be a welcome change and also increase the variety of foods that are served. Soldiers suggested introducing the following ethnic foods to the menus: Pizza, fried chicken, barbecued pork chops, corn bread, Chinese food (i.e. Oriental fried rice, chop suey), Cajun food, especially deep fried catfish, Korean spicy cabbage (kimchi), collard greens, black-eyed peas, burritos, calzones, manicotti, bagels, and matzoh bread.

The acceptance ratings for Tray Pack fruit and fresh fruit items are in Table 16. The ratings were generally quite high, ranging from 6.94 to 7.88 on the nine-point hedonic scale. No differences between groups were significant. In general, however, it seemed apparent that canned fruits were chosen more often than

fresh fruits. Was this a true preference or just a function of availability? Selection rates were computed by dividing the number of times an item was chosen by the total number of times it was available. In the FY89 group, when canned fruit only was available, it was chosen 63.3% of the time; when fresh fruit only was available, it was chosen 25.5%; when both were available the fresh was chosen 43.8% of the time and the canned 46.6%. In the FY90 group, the corresponding figures were: canned fruit available--92.7%, fresh fruit available--21.1%, both types available--27.0% chose fresh while 92.6% chose canned (the percents do not total 100% because some took neither while some took both). At first glance it appears that canned fruit was much more popular than fresh. At least some of the difference, however, may be due to differences in serving style--the canned fruit was generally dished out by the server along with the T Ration entree, starch, etc., while the fresh fruit was self serve.

Table 17 contains the hedonic ratings of Tray Pack vegetables and starch items. Out of the 10 items common to both menus, there was a significant difference for only one--the FY90 group rated macaroni and cheese higher than did the FY89 group.

Except for potato salad, all the ratings were above 5.0.

The results for oatmeal and commercial cold cereals are in Table 18. Out of the eight items in common for both menus, the only significant difference was for strawberry oatmeal, with the FY89 group rating it higher. All the ratings by both groups were above 6.0 (which means "like slightly"). As can be seen in Table

18, more people chose cold cereal than oatmeal. Was this a function of true preference or just availability? Again, selection rates were computed. In the FY89 group, the selection rate for cold cereal was 59.2%, while for oatmeal it was only 15.0%. In the FY90 group, the selection rate for cold cereal was 67.0%, while for oatmeal it was only 24.9%. Thus cold cereal was almost 3 to 4 times as popular as was oatmeal. This difference may have been a function of taste, ease of use, or temperature, but since the hedonic ratings of both types of cereal were high, this was probably a function of ease of use. One had to hydrate the oatmeal powder and consume it at once or discard the remainder. By contrast, one could either hydrate the cereal and eat it at once or save it dry as a snack food to be eaten throughout the day.

In Table 19 can be found the ratings of Tray Pack beverage items. Milk was served in prepackaged cartons, while other beverages like coffee, juice, and fruit flavored drink were served in eight-ounce cups, of which there was a plentiful supply (i.e., there was no restriction on the number of cups a soldier could use). Three of the 11 items common to both menus had significantly different ratings. The FY89 group rated orange juice and orange beverage base significantly higher, while the FY90 group rated milk significantly higher. These differences may have reflected differences in personal preference for various beverages. All the ratings were on the positive side of the scale.

Table 20 contains the ratings of Tray Pack dessert items. Only one of the five common items was rated significantly

different, with the FY89 group rating blueberry cake more than two points higher than did the FY90 group. This difference probably resulted from some tins of the cake seeming moister and fresher, perhaps because the cans were heated prior to opening, while others appeared dry and stiff. All but one of the ratings was above 5.0. There were no significant differences between the two groups on the miscellaneous items like bread (sliced loaves in bags), soup, syrups, dressings, peanut butter and jelly which are listed in Table 21. The peanut butter and jelly were packaged in individual squeeze foil-packs.

Table 14. Mean Hedonic Ratings\* of Tray Pack Breakfast Items.

<u>Item (1985 mean):</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean: (N)</u>	<u>p</u>
Ham slices	--	5.96 (36)	.000
Pork sausage links	7.48 (33)	6.78 (36)	
Creamed ground beef (4.9)	6.77 (27)	5.13 (35)	
Canadian bacon (5.3)	6.58 (31)	6.24 (36)	
Bacon and cheese omelet	6.13 (24)	5.38 (34)	
Corned beef hash	6.00 (11)	5.21 (34)	.028
Western omelet	5.89 (19)	4.70 (35)	
Omelet w/sausage & potato	5.88 (32)	5.98 (35)	
Omelet w/bacon pieces	5.78 (27)	5.56 (34)	
Potatoes w/bacon pieces	5.69 (32)	5.41 (37)	
Hominy grits w/cheese & bacon	5.46 (13)	--	
Eggs w/ham (3.8)	5.02 (32)	5.74 (27)	
Bread pudding, maple w/ham	4.00 (20)	5.21 (35)	
Escalloped potatoes	3.95 (19)	--	
Cornmeal cereal	2.38 (8)	--	

\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."

Table 15. Mean Hedonic Ratings\* of Tray Pack Dinner Items.

<u>Item (1985 mean):</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>	<u>p</u>
Spaghetti w/meatballs	7.74 (34)	--	.045
Beef pot roast	7.57 (35)	7.21 (36)	
Beef stew (6.9)	7.41 (34)	--	
Lasagna (6.7)	7.40 (35)	7.83 (36)	
Swedish meatballs w/gravy	7.16 (32)	--	
Beef tips w/gravy (6.3)	7.14 (37)	6.26 (34)	
Chicken breast w/gravy	6.76 (37)	7.57 (38)	
Chili con carne	6.56 (32)	6.31 (35)	
Chicken ala king (6.1)	6.52 (27)	--	
BBQ pork	6.03 (29)	5.80 (37)	
Beef strips w/green peppers	5.97 (32)	6.94 (33)	
Chicken cacciatore	5.88 (32)	6.59 (37)	
Beef in BBQ sauce (5.5)	5.23 (30)	--	
Hamburger	--	7.72 (36)	
Turkey slices (5.8)	--	6.88 (33)	

\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."

Table 16. Mean Hedonic Ratings\* of Tray Pack Fruit Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>	<u>p</u>
<u>Canned fruits</u>			
Pears	7.88 (25)	7.56 (34)	
Fruit cocktail	7.80 (20)	7.62 (37)	
Peaches	7.46 (31)	7.60 (37)	
Applesauce	7.42 (25)	7.07 (34)	
<u>Fresh fruits</u>			
Pears--fresh	7.80 (17)	6.94 (17)	
Oranges--fresh	7.54 (24)	7.54 (12)	
Bananas--fresh	7.14 (22)	7.88 (16)	
Apples--fresh	6.98 (23)	7.17 (22)	

\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."

Table 17. Mean Hedonic Ratings\* of Tray Pack Vegetable and Starch Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>	<u>p</u>
Salad (fresh)	7.32 (33)	7.15 (35)	
Rice	7.25 (36)	7.22 (37)	
Whole kernel corn	7.14 (34)	7.13 (38)	
Glazed sweet potatoes	6.81 (16)	5.63 (35)	
Mixed vegetables	6.63 (8)	5.20 (30)	
Buttered noodles	6.53 (34)	--	
Peas w/carrots	6.21 (29)	5.30 (27)	
Green beans	6.03 (30)	6.01 (35)	
Sliced carrots	5.37 (18)	5.32 (25)	
Potatoes w/butter sauce	5.26 (25)	5.16 (37)	
Macaroni and cheese	5.17 (30)	6.82 (36)	.003
Potato salad	3.26 (19)	--	
Beans w/bacon sauce (baked)	--	6.50 (28)	

\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."

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Table 18. Mean Hedonic Ratings\* of Oatmeal\*\* and Cereal Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>	<u>p</u>
<u>Oatmeal:</u>			
Strawberry	8.80 (5)	7.25 (16)	.012
Maple brown sugar	6.67 (6)	7.75 (6)	
Apple cinnamon	6.58 (11)	6.99 (18)	
<u>Cold cereals:</u>			
Sugar pops	8.03 (16)	8.00 (21)	
Fruit loops	8.02 (22)	8.32 (31)	
Frosted flakes	7.85 (29)	8.15 (32)	
Honey smacks	7.42 (18)	7.86 (32)	
Frosted rice krispies	7.42 (27)	7.67 (27)	

\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."

\*\* Only oatmeal types rated by at least 5 subjects are included.

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Table 19. Mean Hedonic Ratings\* of Tray Pack Beverage Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>	<u>p</u>
Cocoa	8.03 (32)	7.35 (19)	
Lemon beverage base	7.77 (14)	6.10 (10)	
Lemon-lime beverage base	7.55 (22)	--	
Orange beverage base	7.52 (17)	6.36 (28)	.025
Grape beverage base	7.48 (25)	7.59 (13)	
Chocolate milk	7.46 (36)	7.63 (30)	
Grape juice	7.04 (19)	6.36 (18)	
Orange juice	6.97 (34)	6.09 (33)	.013
Coffee	6.81 (22)	6.19 (15)	
Chocolate milk-shelf stable	6.78 (31)	6.86 (31)	
Milk (2% fat)	6.31 (30)	7.46 (39)	.008
White milk-shelf stable	5.65 (31)	6.65 (36)	

\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."

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Table 20. Mean Hedonic Ratings\* of Tray Pack  
Dessert Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>	<u>p</u>
Blueberry cake	7.17 (32)	5.08 (30)	.000
Cherry dessert	6.95 (19)	--	
Apple dessert	6.54 (29)	--	
Spice cake	6.46 (29)	6.00 (31)	
Apple coffee cake	5.96 (28)	5.49 (32)	
Chocolate pudding	5.54 (22)	5.88 (32)	
Marble cake	5.39 (25)	4.60 (34)	
Pound cake	--	5.98 (36)	
Chocolate cake	--	5.15 (33)	

\* On this 9-point scale 1 corresponds to "dislike extremely",  
5 is "neutral", and 9 corresponds to "like extremely."

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Table 21. Mean Hedonic Ratings\* of Bread,  
Soup, and Other Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>	<u>p</u>
<u>Breads:</u>			
Crackers	7.57 (7)	--	
Bread	7.23 (40)	6.92 (38)	
Hamburger roll	--	7.04 (37)	
<u>Soup:</u>			
Soup	6.75 (8)	--	
<u>Other:</u>			
Jelly	7.32 (34)	6.69 (20)	
Peanut butter	7.22 (35)	6.75 (15)	
Salad dressing	6.87 (5)	6.80 (5)	
French dressing	--	7.90 (5)	
Thousand Island dressing	--	6.52 (8)	
Maple syrup	--	6.17 (33)	

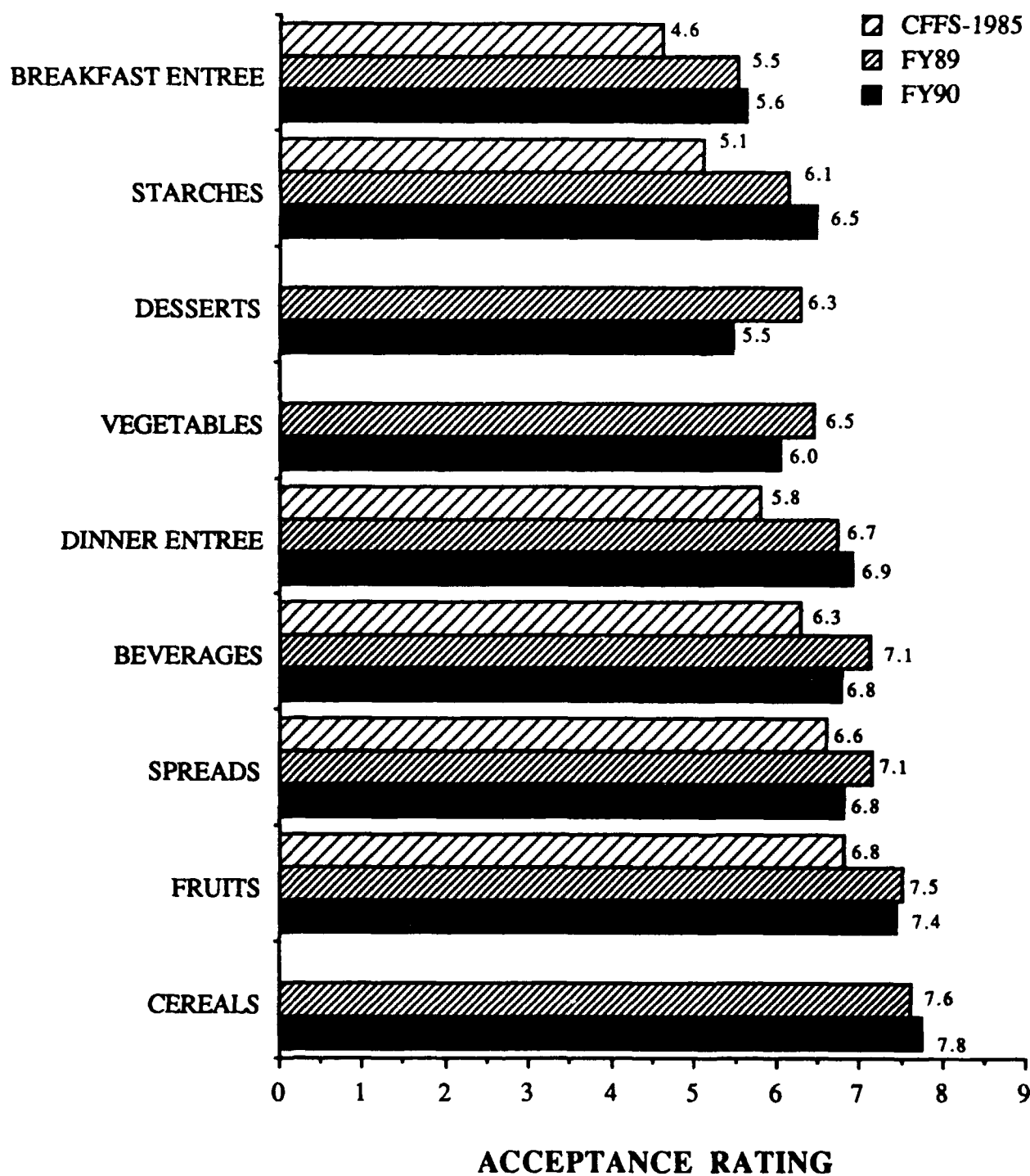
\* On this 9-point scale 1 corresponds to "dislike extremely",  
5 is "neutral", and 9 corresponds to "like extremely."

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Explanation of Tables 14-21 reveals that the majority of the T Ration items that received acceptability scores below 5 were contained in the FY89 version and have been dropped from the FY90 version (cornmeal cereal, escalloped potatoes, and potato salad). A few items continued in the FY90 version (Western omelet, bread pudding, and marble cake) received fairly neutral acceptability ratings (between 5 and 6) by one group (FY89) and a low rating by the other group FY90. It is recommended that these items be reformulated or deleted from future versions of the T Ration.

Figure 6 summarizes most of the data from the preceding Tables 14-21 by displaying the mean acceptance ratings for each food group. The analysis is broken down by the version of the T Ration, and the 1985 CFFS study means are shown for comparison. For each group, the FY89 and FY90 means were very close to each other, and both were somewhat higher than for the previous T Ration tested.

All told, out of the ratings of 66 items found in common in both menus, there were significant differences between the groups on only 9 (or 13.6%) of them. (On the basis of random probability alone, one could expect statistically significant differences on 5% or about 3 of them.) Of these 9, the FY89 group rated 7 (or 78%) higher, while the FY90 group rated 2 (or 22%) higher. According to the Sign Test, this split among the 9 ratings is not statistically significant. The vast majority of all ratings exceeded the neutral point of 5.0. Therefore, it can be concluded that both the FY89 and FY90 versions of the Tray Pack ration were acceptable to the troops in this study, and neither version of the ration was



**Figure 6. Mean Acceptance Ratings for Each Food Group.**

significantly more acceptable than the other. Both were more acceptable than the 1985 CFFS version.

2. Meal, Ready-to-Eat (MRE) Items. The troops in both T Ration groups consumed the same version of MREs (Version VIII) for lunch. Their acceptance of all MRE items, then, could be compared directly. The means are in Table 22, grouped separately for entrees and then for all other items. Within each grouping, the MRE items are listed in order of declining acceptability as rated by the FY89 group.

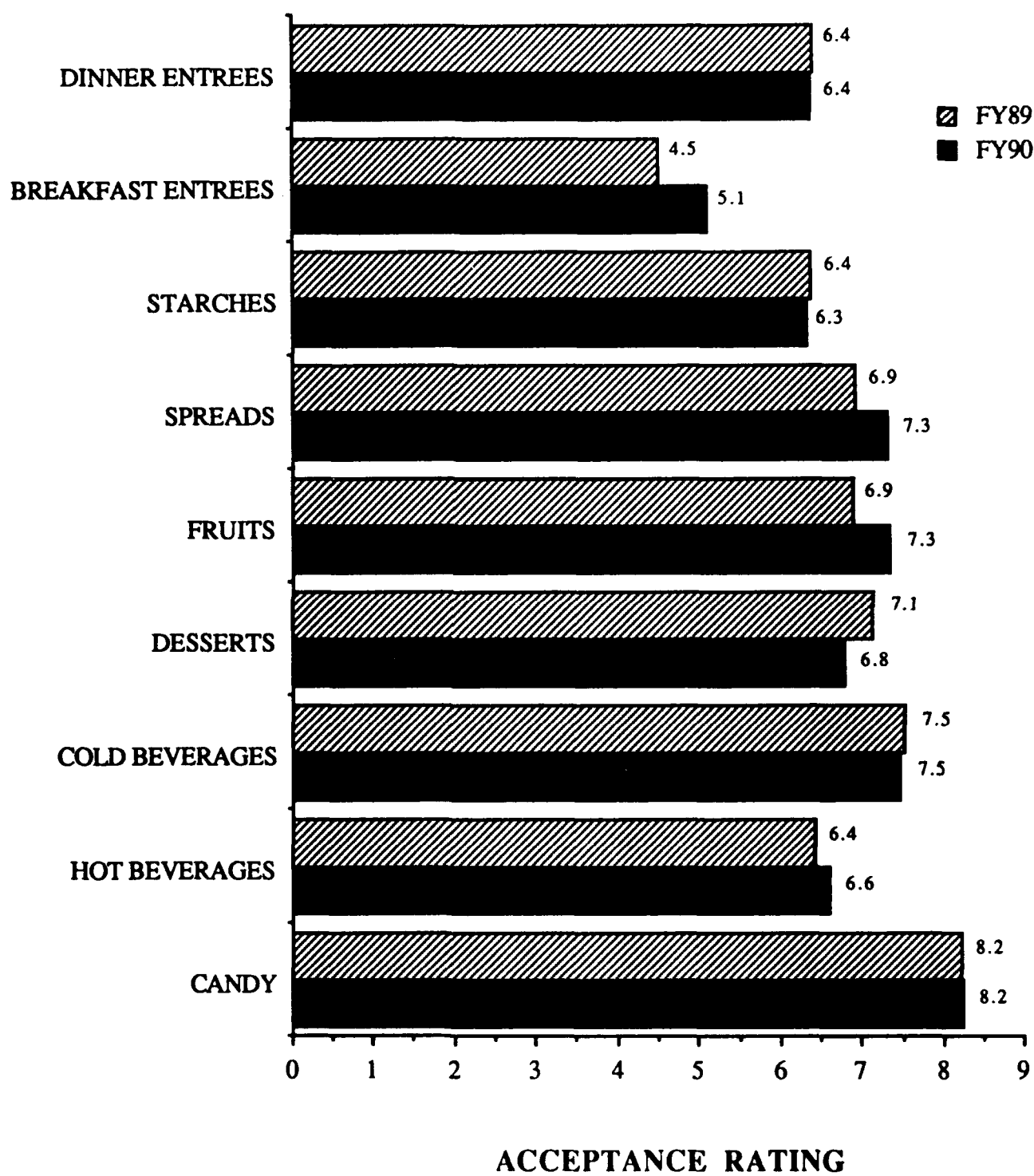
Ratings of the MRE entrees were very similar for both groups, as would be expected given that both consumed the same version of this ration for lunch. Out of 12 entrees, only one showed a statistically significant difference, and that was meatballs and rice. This was probably a random rather than meaningful difference in light of the fact that ratings of all the additional MRE items were also quite similar. Out of all 38 MRE items, the FY89 group rated 18 marginally higher, the FY90 group rated 18 marginally higher, and there were two ties. These data, then, provide evidence of the comparability of the two groups in their standards for rating foods--when they rated the same food items, served identically (as opposed to T Ration which were mostly the same in both groups but may have been prepared or served differently), they independently made very similar judgments.

Figure 7 provides a summary of the MRE acceptability ratings by food group. As mentioned above, the FY89 and FY90 groups gave very similar ratings and this was true across all food groups. The

Table 22. Mean hedonic ratings\* of the MRE items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>	<u>p</u>
<u>Entree Items:</u>			
Ham slices	7.32 (20)	7.31 (21)	.049
Spaghetti	6.93 (21)	6.98 (22)	
Chicken & rice	6.76 (21)	7.59 (17)	
Chicken a la king	6.41 (20)	5.82 (14)	
Tuna with noodles	6.28 (17)	6.72 (23)	
Chicken stew	6.27 (26)	6.23 (15)	
Meatballs & rice	6.05 (21)	4.57 (14)	
Beef stew	6.03 (20)	6.06 (14)	
Pork & rice	5.92 (22)	5.37 (23)	
Escalloped potatoes & ham	5.25 (15)	6.14 (18)	
Corned beef hash	4.83 (13)	5.89 (15)	
Omelet with ham	4.11 (18)	4.20 (15)	
<u>Other MRE Items:</u>			
M & M candy	8.48 (31)	8.69 (29)	
Caramel	8.46 (19)	8.23 (21)	
Gum	8.14 (35)	7.78 (35)	
Cherry beverage	8.03 (20)	7.94 (30)	
Charms	8.00 (24)	7.96 (23)	
Chocolate nut cake	7.82 (20)	7.48 (19)	
Hot sauce	7.79 (26)	8.24 (22)	
Lemon lime beverage	7.66 (25)	7.36 (22)	
Grape beverage	7.59 (36)	7.58 (30)	
Chocolate covered cookie	7.53 (27)	6.78 (22)	
Applesauce	7.48 (25)	7.86 (29)	
Orange beverage	7.46 (34)	7.49 (27)	
Oatmeal cookie bar	7.28 (25)	7.20 (27)	
Cheese spread	7.18 (33)	7.32 (35)	
Jelly	6.99 (28)	7.17 (30)	
Maple nut cake	6.94 (17)	6.46 (14)	
Fruit mix	6.91 (22)	5.45 (10)	
Crackers	6.91 (38)	6.91 (39)	
Cherry nut cake	6.88 (18)	5.91 (11)	
Pears	6.76 (18)	6.44 (7)	
Peanut butter	6.64 (32)	7.15 (28)	
Peaches	6.44 (17)	6.46 (14)	
Cocoa	6.41 (12)	6.50 (8)	
Brownies	6.03 (21)	6.03 (19)	
Coffee	4.50 (2)	6.58 (8)	
Potato au gratin	4.19 (16)	5.42 (28)	

\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."



**Figure 7. Mean MRE Acceptability by Food Group.**

largest between group difference in acceptability ratings was noted for the breakfast entrees, but this difference did not approach statistical significance.

It is readily apparent from Figure 7 that all food groups received mean acceptability ratings higher than 6 ("like slightly") with the exception of the breakfast entrees. The item ratings in Table 22 indicate that both of the MRE breakfast entrees (corned beef with hash and omelet with ham) received mean ratings at or below the neutral point on the 9-point scale (potato au gratin also received low ratings, but these did not reduce the overall ratings of the starch group to below neutral). While little acceptability data exists for this newest version of the MRE (version VIII), one study conducted in a cold environment (Lester et al., 1989) reported mean acceptability ratings for the breakfast entrees that were at least 6 ("like slightly") on the 9-point scale. The ratings for the two breakfast entrees were comparable to those received by chicken stew, beef stew, and \*ham slices (\*top rated entree in the present study) in that study, (Mean ratings for potato au gratin were all above 7, "like moderately" in the 1989 study). While there are many differences between the 1989 study and the present study, two factors which may have contributed to the poor acceptance of the breakfast entrees in the present study are lack of heating methods (breakfast entrees, as opposed to lunch or dinner entrees, such as eggs may be particularly unacceptable when served cold) and consistently inappropriate eating time (breakfast foods at lunchtime). At a minimum, it is recommended

that troops issued MRE's be provided with suitable heating methods whenever possible.

Most aspects of the MRE received favorable comments during the focus groups. The new MRE's were described as having larger portions, more variety, and better taste than previous versions. The most popular additions to the new MRE's were the candies (M&M's and Charms), improved crackers, Handiwipes, and beverage bases. Most agreed, however, that enough beverage base powder should be included for a canteen-size serving. The items which proved most unpopular were several of the cakes and desserts such as the maple cake, orange nut cake, and brownie. Many described these cakes as being too dry and hard; some mentioned a preference for the previous MRE dessert cakes. Others mentioned the lack of water in the field as a problem with the foods that need water added.

Suggestions for improvement included adding small packages of fruits, having the opportunity to make sandwiches with the MRE (cold cuts, etc.), including both peanut butter and jelly in each MRE (rather than having only one or the other), having a larger serving size of beverage base, bringing back the frankfurters, tuna with mayonnaise, brand name cheese, and soup broth from the old C-Rats. Soldiers also suggested including heat tabs which they felt would be a plus since the entrees would taste much better hot.

## **G. Final Questionnaire**

1. Eating, Drinking and Physical Activity. The answers obtained on the questions pertaining to eating, drinking and



physical activity can be found in Table 23. (Please note that the percents in each category do not always add to 100% due to rounding error). In most cases, the responses of the two groups were relatively similar. The most obvious difference was in self-reported activity, with the FY89 group (a firing battery) more often reporting heavy or moderate activity than the FY90 group (a service battery). The typical subject in the FY89 group was currently trying to change his weight (split 50-50 between trying to gain or lose), lost weight during the exercise and attributed this to eating too little food, was moderately active, sometimes had trouble getting enough sleep, was sometimes hungry and thirsty, but thought it moderately easy to obtain water. The typical subject in the FY90 group was not trying to change his weight, but did lose weight during the exercise and attributed this to eating too little food, he sometimes had trouble getting enough sleep, was sometimes hungry and thirsty, but thought it moderately easy to obtain water (most commonly from water "buffaloes").

2. Overall Ratings of the T Ration and the MRE. As part of the final questionnaire, subjects had the opportunity to rate at one time all the T Ration and MRE menu items. These results are in Tables 24 through 32. When comparing these data to the ratings provided immediately after each meal, which were reported earlier, the most striking observation is that most ratings are now lower. This pattern of results was also found in an earlier MRE test (see Popper et al., 1987; Jezior et al., 1990). There may be several

Table 23. Final Questionnaire: Consummatory Behavior and Activity.

<u>Item:</u>	<u>FY89 Group</u>	<u>FY90 Group</u>
Currently trying to:		
lose weight	30%	27%
gain weight	32	16
neither	38	57
Change in weight during exercise:		
gained	6%	8%
lost	64	50
neither	30	42
Reasons for gaining:		
too little exercise	3%	3%
ate too much	3	10
Reasons for losing:		
ate too little	48%	28%
too much exercise	14	18
drank too little	10	12
Smoke or use tobacco?		
yes	48%	45%
no	52	55
Frequency of tobacco use:		
few times a week	4%	8%
1-3 times/day	4	2
more than 3/day	35	31
Was tobacco usage:		
more than usual	13%	22%
the same	25	18
less than usual	6	2
Level of physical activity:		
heavy daily activity	22%	24%
moderate daily activity	57	32
light daily activity	13	16
mixed day-to-day activity	9	28
How often got enough sleep?	3.2 <sup>1</sup>	2.9 <sup>1</sup>
How often hungry?	3.4 <sup>1</sup>	2.8 <sup>1</sup>
How often thirsty?	3.0 <sup>1</sup>	2.8 <sup>1</sup>
How easy to obtain water?	6.0 <sup>2</sup>	5.9 <sup>2</sup>
How obtained water?		
5-gallon cans	57%	49%
Water "buffalo"	52	63

<sup>1</sup> Answered on a five-point scale where 1=never, 2=rarely, 3=sometimes, 4=usually, and 5=always.

<sup>2</sup> Answered on a seven-point scale where 1=extremely difficult, 4=neither easy nor difficult, and 7=extremely easy.

reasons for this. The immediate ratings may have been boosted by a self-selection effect, i.e., only people who wanted the item took it and rated it. But the delayed ratings were made by all those who had ever tried a given item, i.e., these ratings may have included those who had tried the item in the past, didn't like it, and then refused it during this study. The final ratings may also have been affected by genuine changes of mind over the passage of time. For instance, after repeatedly trying different omelets, some soldiers may have decided they liked all omelets in general less. They may also have experienced contrast effects, e.g., liking one item very much until they later tried another item they liked even more, thus devaluing the first in the process.

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Table 24. Final Questionnaire: Mean Hedonic Ratings\*  
of Tray Pack Breakfast Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>
Ham slices	--	6.4 (46)
Pork sausage links	6.6 (67)	7.0 (47)
Creamed ground beef	4.5 (60)	4.7 (45)
Canadian bacon	6.2 (62)	--
Bacon and cheese omelet	4.1 (53)	5.1 (39)
Corned beef hash	2.8 (56)	4.9 (42)
Western omelet	3.7 (49)	4.7 (43)
Omelet w/sausage & potato	4.7 (58)	5.7 (44)
Omelet w/bacon pieces	3.9 (58)	4.7 (44)
Potatoes w/bacon pieces	4.1 (54)	4.8 (40)
Hominy grits w/cheese & bacon	3.6 (52)	--
Eggs w/ham	4.0 (57)	5.0 (44)
Bread pudding, maple w/ham	2.5 (42)	5.1 (43)
Escalloped potatoes	3.3 (55)	--
Cornmeal cereal	2.4 (41)	--

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\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."

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Table 25. Final Questionnaire: Mean Hedonic Ratings\*  
of Tray Pack Dinner Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>
Spaghetti w/meatballs	7.0 (57)	--
Beef pot roast	5.9 (62)	6.5 (47)
Beef stew	5.9 (64)	--
Lasagna	7.0 (66)	7.6 (47)
Swedish meatballs w/gravy	5.4 (63)	--
Beef tips w/gravy	5.4 (60)	6.2 (48)
Chicken breast w/gravy	6.7 (64)	7.7 (50)
Chili con carne	5.4 (65)	5.6 (45)
Chicken ala king	4.0 (61)	--
BBQ pork	4.5 (59)	5.9 (44)
Beef strips w/green peppers	5.4 (60)	6.5 (46)
Chicken cacciatore	3.8 (61)	5.1 (44)
Beef in BBQ sauce	4.7 (64)	--
Hamburger	--	7.5 (47)
Turkey slices	--	7.0 (47)

\* On this 9-point scale 1 corresponds to "dislike extremely",  
5 is "neutral", and 9 corresponds to "like extremely."

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Table 26. Final Questionnaire: Mean Hedonic Ratings\*  
of Tray Pack Fruit Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>
<u>Canned fruits</u>		
Pears	7.0 (58)	7.3 (41)
Fruit cocktail	7.3 (54)	7.8 (40)
Peaches	7.2 (61)	7.4 (43)
Applesauce	6.4 (59)	7.5 (38)

\* On this 9-point scale 1 corresponds to "dislike extremely",  
5 is "neutral", and 9 corresponds to "like extremely."

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Table 27. Final Questionnaire: Mean Hedonic Ratings\*  
of Tray Pack Vegetable and Starch Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>
Rice	6.9 (65)	7.4 (49)
Whole kernel corn	6.8 (65)	6.9 (48)
Glazed sweet potatoes	4.9 (44)	5.7 (44)
Mixed vegetables	5.8 (56)	5.0 (39)
Buttered noodles	5.7 (64)	--
Peas w/carrots	5.7 (55)	4.9 (41)
Green beans	5.8 (59)	5.9 (45)
Sliced carrots	5.2 (52)	4.8 (38)
Potatoes w/butter sauce	4.0 (50)	5.0 (41)
Macaroni and cheese	4.9 (62)	6.7 (48)
Potato salad	2.6 (48)	--
Beans w/bacon sauce	--	6.1 (38)

\* On this 9-point scale 1 corresponds to "dislike extremely",  
5 is "neutral", and 9 corresponds to "like extremely."

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Table 28. Final Questionnaire: Mean Hedonic Ratings\*  
of Oatmeal Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>
Strawberry	5.2 (33)	6.3 (31)
Maple brown sugar	5.6 (36)	7.3 (23)
Apple cinnamon	5.8 (38)	7.2 (27)

\* On this 9-point scale 1 corresponds to "dislike extremely",  
5 is "neutral", and 9 corresponds to "like extremely."

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Table 29. Final Questionnaire: Final Mean Hedonic Ratings\*  
of Tray Pack Beverage Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>
Cocoa	7.8 (62)	6.8 (28)
Lemon beverage base	7.2 (56)	7.4 (34)
Lemon-lime beverage base	7.3 (56)	7.4 (36)
Orange beverage base	7.4 (58)	7.2 (41)
Grape beverage base	7.5 (59)	7.4 (37)
Grape juice	6.5 (49)	6.7 (29)
Orange juice	6.8 (57)	6.4 (42)
Coffee	5.6 (42)	6.4 (24)
Milk	6.7 (65)	7.2 (48)

\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."

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Table 30. Final Questionnaire: Mean Hedonic Ratings\*  
of Tray Pack Dessert Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>
Blueberry cake	6.9 (63)	5.5 (37)
Cherry dessert	5.2 (45)	--
Apple dessert	5.6 (56)	--
Blueberry dessert	5.2 (41)	4.9 (29)
Spice cake	5.1 (61)	5.7 (41)
Apple coffee cake	5.0 (50)	--
Chocolate pudding	4.5 (53)	5.9 (42)
Marble cake	4.9 (56)	5.0 (40)
Pound cake	--	6.0 (38)
Chocolate cake	--	5.9 (34)

\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."

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Table 31. Final Questionnaire: Mean Hedonic Ratings\*  
of Bread, Soup, and Other Items.

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>
<u>Breads:</u>		
Bread	7.5 (66)	7.1 (50)
Hamburger roll	--	7.1 (50)
<u>Other:</u>		
Jelly	7.2 (64)	6.4 (37)
Peanut butter	6.9 (63)	6.6 (33)
Cheese spread	--	6.7 (38)
Catsup	--	6.5 (8)
Mustard	--	6.3 (6)
Relish	--	5.2 (5)
Maple syrup	--	6.3 (38)

\* On this 9-point scale 1 corresponds to "dislike extremely",  
5 is "neutral", and 9 corresponds to "like extremely."

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**Table 32. Final Questionnaire: Mean Hedonic Ratings\*  
of the MRE Items.**

<u>Item:</u>	<u>FY89 Mean (N):</u>	<u>FY90 Mean (N):</u>
<u>Entree Items:</u>		
Ham slices	6.4 (60)	7.1 (41)
Spaghetti	5.8 (57)	6.2 (40)
Chicken & rice	6.3 (58)	7.3 (34)
Chicken a la king	4.0 (61)	4.7 (32)
Tuna with noodles	5.0 (55)	6.8 (38)
Chicken stew	4.7 (60)	5.3 (33)
Meatballs & rice	5.0 (59)	5.4 (30)
Beef stew	4.8 (58)	5.3 (32)
Pork & rice	4.8 (54)	5.5 (39)
Escalloped potatoes & ham	3.5 (54)	5.4 (32)
Corned beef hash	2.3 (52)	5.5 (31)
Omelet with ham	3.2 (56)	4.2 (27)
<u>Other MRE Items:</u>		
M & M candy	8.1 (63)	8.2 (44)
Caramel	7.7 (58)	7.7 (41)
Gum	7.8 (68)	7.7 (44)
Cherry beverage	7.5 (58)	7.6 (40)
Charms	7.7 (57)	7.6 (41)
Chocolate nut cake	6.8 (62)	6.7 (35)
Hot sauce	7.8 (59)	8.3 (35)
Lemon lime beverage	6.9 (62)	7.2 (38)
Grape beverage	7.3 (62)	7.4 (40)
Chocolate covered cookie	6.7 (67)	5.9 (36)
Applesauce	6.1 (56)	7.5 (40)
Orange beverage	7.3 (62)	7.4 (39)
Oatmeal cookie bar	5.8 (55)	6.9 (36)
Cheese spread	6.2 (63)	6.8 (43)
Jelly	7.0 (63)	6.5 (40)
Maple nut cake	5.6 (56)	6.2 (32)
Fruit mix	6.0 (55)	5.8 (28)
Crackers	6.7 (64)	6.6 (45)
Cherry nut cake	5.4 (57)	6.1 (28)
Pears	6.1 (54)	5.5 (29)
Peanut butter	6.9 (63)	6.7 (39)
Peaches	5.8 (53)	5.6 (30)
Cocoa	6.4 (55)	6.6 (29)
Brownies	5.2 (57)	4.8 (30)
Coffee	4.2 (37)	5.4 (23)
Potato au gratin	2.9 (51)	5.5 (33)

\* On this 9-point scale 1 corresponds to "dislike extremely", 5 is "neutral", and 9 corresponds to "like extremely."



3. Comparative Evaluation of the T Ration and the MRE. As part of the final questionnaire, the subjects were given the opportunity to make general assessments about their overall evaluations of the respective rations and how the T Ration compared to the MRE. These data can be seen in Tables 33 and 34. The vast majority of both groups preferred the T Ration to the MRE for dinner, though only about half preferred it for lunch, while most of the FY90 group preferred it for breakfast, but only about half of the FY89 group did. In other words, the current configuration of a T Ration for breakfast, MRE for lunch, and T Ration for dinner seemed more acceptable for the FY90 group than the FY89 one. The FY89 group's ratings of the appearance, variety, and liking of the T Ration and MRE were also much lower than those of the FY90 group.

Since the MRE was the same in both cases, this might reflect a tendency on the part of the FY90 groups to rate all food higher. However, this tendency was not apparent when rations were rated in the field. As noted earlier, the two groups rarely differed in the acceptability ratings applied to T Ration (e.g. Figure 6) and MRE (e.g. Figure 7) items. On the other hand, the difference might reflect genuinely greater overall satisfaction with the FY90 T Ration perhaps due to knowledge that this was a "new" version or due to slightly better heating/serving capabilities by the FY90 group. Morale factors may have also influenced the overall ratings as the FY90 group, but not the FY89 group, was able to spend a couple of days in garrison near the end of the study. Effects on

impressions of the T Ration may have generalized to the MRE as well.

Portion sizes of both the T Ration and MRE components were generally rated between 2 ("somewhat too small") and 3 ("just right"). On a 5-point scale of food temperature, the eating temperature was rated by the FY89 group about one point lower (near the scale midpoint of 3 or "neutral") than the serving temperature (near 4 or "warm"). The FY90 group rated the temperature slightly higher at both times, but still showed the drop between serving and eating temperature. The main reason for the differences in serving temperature is that food for the FY90 group was kept hot on the serving line whereas food for the FY89 group was not warmed after initial heating in immersion heaters (see Results and Discussion sections A1 and A2). MRE's were generally not heated, except by a small minority in each group. However, respondents said they would "usually" eat their MRE if a new, special heating system was provided in the future.

The FY90 version of the T Ration had different menus only for a 10-day cycle as opposed to the 14-day cycle of the older FY89 version which has some menus repeated. Yet the reduced menu cycle in the FY90 version did not adversely impact on ratings of troops' satisfaction with variety. In fact, the FY89 group gave variety an average rating of 4.7, just below the neutral point on the scale, while the FY90 group gave it a 6.2 ("like slightly"). This rating still leaves room for improvement, however.

Both groups preferred about 10-15 minutes more eating time than they were able to get currently. People infrequently ate alone, but rather more commonly in a small group. When asked about activities that coincided with eating (see Table 33), the soldiers indicated they were usually able just to relax and enjoy their food, though many indicated they had to work, move, or hurry while eating all of the meals. Most respondents said they had experienced the T Ration "many times" in the past.

Based on this and their current experience, they expressed a number of alternatives when asked in open-ended questions which items should be added to or dropped from the T Ration or MRE. Only items mentioned by at least five soldiers from either group are listed in Table 34. The most common request for dropping was chicken ala king. The FY89 group most wanted to add hamburgers, an item already in the FY90 version of the ration.

On the final questionnaire, the FY90 group rated the MRE higher than the FY89 group and also made far fewer suggestions for change. By contrast, a large proportion of the FY89 group wanted items dropped or added. Forty percent wanted to drop corned beef hash, while 34.3% wanted to drop the omelet with ham, and 25.7% wanted to drop the chicken ala king. Large minorities wanted several previously dropped items returned to the system--beef patties (34.3%), pork patties (20.0%), and hot dogs (14.3%).

Additional comments expressed in focus groups indicated a preference for a feeding plan consisting of one "good" meal and several tasty snacks that could be eaten throughout the day. It

was suggested that any of the following snacks be added to either the T Ration or the MRE: beef jerky, small canned fruits, "Oodles of Noodles," peanuts, sunflower seeds, trail mix, granola bars, snack puddings, candy bars, and anything else that was nutritious and provided quick energy.

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Table 33. Final Questionnaire: Comparative Evaluations of the Rations.

<u>Item:</u>	<u>FY89 (N=69):</u>	<u>FY90 (N=51):</u>
Per cent preferring the T Ration over the MRE		
for breakfast:	52%	93%
for lunch:	41	56
for dinner	92	96
Evaluation of appearance (9 point scale) <sup>1</sup>		
of T Ration:	4.1	5.6
of MRE:	4.4	5.2
Evaluation of variety (9 point scale) <sup>1</sup>		
of T Ration:	4.7	6.2
of MRE:	4.6	5.7
Liking (9 point scale) <sup>1</sup>		
of T Ration:	4.5	6.5
of MRE:	4.5	5.8
Evaluation of portion size (5 point scale) <sup>2</sup>		
of T Ration		
Entrees:	2.1	2.6
Starches:	2.4	2.6
Vegetables:	2.6	2.8
Fruits:	2.4	2.5
Desserts:	2.4	2.7
Beverages:	2.2	2.5
of MRE		
Entrees:	2.4	2.7
Starches:	2.4	2.7
Vegetables:	2.1	2.7
Fruits:	2.2	2.6
Desserts:	2.1	2.5
Beverages:	2.2	2.5
Temperature of T-Rat Entree (5 point scale) <sup>3</sup>		
When served	3.8	4.1
When eaten	2.9	3.4

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Table 33. Final Questionnaire: Comparative Evaluations  
of the Rations (Continued).

<u>Item:</u>	<u>FY89 (N=69):</u>	<u>FY90 (N=51):</u>
How heated MRE entree:		
Did not heat	75%	63%
On vehicle engine block	12	0
MRE heater pads	0	2
Mounted vehicle heater	2	2
Squad stove	2	4
Sterno	0	4
Frequency of heating MRE entree		
Once	2%	4%
Several times	12	20
Many times	2	4
Every day	6	20
If MRE heating system available, how often would you use it? (5 point scale) <sup>4</sup>	3.8	4.0
Mean time for eating	32.3 min	35.1 min
Mean time preferred	46.8 min	45.6 min
People ate with:		
No one (alone):		
breakfast	7%	6%
lunch	13	24
dinner	3	8
No one, but unit near:		
breakfast	12%	10%
lunch	23	20
dinner	10	10
Small group, away from unit:		
breakfast	19%	22%
lunch	25	24
dinner	22	24
Small group, near unit:		
breakfast	35%	53%
lunch	25	28
dinner	35	55
Large group:		
breakfast	28%	12%
lunch	17	2
dinner	28	14

Table 33. Final Questionnaire: Comparative Evaluations of the Rations (Continued).

<u>Item:</u>	<u>FY89 (N=69):</u>	<u>FY90 (N=51):</u>
During meals, did you?		
Relax and enjoy:		
breakfast	57%	57%
lunch	41	39
dinner	62	55
Work:		
breakfast	6%	14%
lunch	17	24
dinner	3	6
Move:		
breakfast	2%	8%
lunch	17	18
dinner	3	8
Have to eat quickly:		
breakfast	30%	20%
lunch	25	31
dinner	25	18
How often had T-Rat before:		
Never	6%	4%
Once	4	6
Several times	24	23
Many times	66	66
Ate food other than that provided:		
Yes	9%	10%
No	91	90

<sup>1</sup> Questions were answered on the 9-point hedonic scale where 1=dislike extremely, 5=neither like nor dislike, and 9=like extremely.

<sup>2</sup> Answered on a 5-point scale where 1=much too small, 3=just right, and 5=much too large.

<sup>3</sup> Answered on a 5-point scale on which 1=cold, 3=neutral, and 5=hot.

<sup>4</sup> Answered on a 5-point scale on which 1=never, 3=sometimes, and 5=always.

---

Table 34. Final Questionnaire: Foods Suggested  
for Addition or Deletion<sup>1</sup>.

	<u>FY89 Group (N=35)</u>	<u>FY90 Group (N=39)</u>
Foods to be dropped from the T Ration:		
Chicken ala king	20.0%	--
Chicken cacciatore	17.1	5.1%
Bread pudding	17.1	5.1
Cornmeal items	17.1	--
All omelets	5.7	15.4
Foods to be added to the T Ration:		
Hamburgers	17.1%	n/a
Foods to be dropped from the MRE:		
Corned beef hash	40.0%	2.6%
Omelet with ham	34.3	10.3
Chicken a la king	25.7	10.3
Escalloped potatoes & ham	22.9	0.0
Tuna and noodles	17.1	0.0
Foods to be added to the MRE:		
Beef patties	34.3%	0.0%
Pork patties	20.0	0.0
Hot dogs	14.3	0.0

---

<sup>1</sup> Includes only items mentioned by at least 5 people in at least one group.

---

## V. Conclusions and Recommendations

1. Energy intake exceeded the minimum MRDA of 2,800 kcal/day for moderate physical activity, but was only about 90% of the recommended average of 3,200 kcal/day. Both the FY89 and FY90 rations were about equally consumed, and resulted in a percent weight loss of, respectively, 1.5% and 1.0% over the 14 days of the study. Only about 15% of the troops lost more than 3% of their body weight. In the 1985 Combat Field Feeding Study (CFFS), troops subsisting on two T Rations and one MRE a day for 44 days lost no more than 2% of their starting weight on the average (but about 25% of the troops lost more than 3% of their body weight). In the current study, correlations between hedonic ratings and intake indicated that items rated higher on the hedonic preference scale were actually consumed to a greater extent. Therefore, future versions of the ration should replace low-hedonic menu items with higher preference ones to encourage greater caloric consumption and less weight loss.

2. In the 1985 CFFS study, calcium intake was below the MRDA, sodium intake was high (over the recommended upper limit of 1700 mg/1000 kcal), and the intake of several nutrients couldn't be assessed due to missing data. In the current study, nutrient intake was approximately the same with both versions of the ration. Fat and sodium intake were below the recommended maximums of the MRDA. However, sodium intake was close the the recommended maximum. Calcium intake exceeded the MRDA, indicating that the



problem which was reported in the CFFS study appears to be solved. The MRDA of all other nutrients except magnesium, zinc, folic acid, vitamin B<sub>12</sub>, and vitamin E was met or exceeded by both groups. In the future, fortification should be considered to increase the levels of the nutrients which fell short.

3. In the 1985 CFFS, 20% or more of the urine specific gravity (USG) measurements indicated water conservation or possibly hypohydration (USG greater than or equal to 1.03). In the current study 12% and 17% of USG measurements exceeded the 1.03 criterion in the FY89 and FY90 groups respectively. Both versions leave room for improvement, however, for a minority remained borderline hypohydrated on some days. Enforcement of water discipline, introduction of additional beverages, and improvement of existing preparation/serving methods for T Ration beverages could help to reduce the incidence of hypohydration.

4. Both the FY89 and FY90 versions of the T Ration were about equally acceptable to the troops, showing a clear improvement in acceptability ratings over previous ratings of the Tray Pack, such as those obtained in the 1985 CFFS. Since not all ratings were very high, however, there is room for further improvement. Low-preference menu items should be reformulated or replaced with higher-preference ones. Inappropriate food and beverage temperature, a factor which affects acceptability and intake continues to be a problem (some of the rations were not hot enough and some of the beverages were not cold enough). This problem needs to be addressed, with improved and more widely available

methods for keeping food and beverages at appropriate temperatures on the serving table.

5. The reduction in the menu cycle from 14 to 10 days in the FY90 version did not adversely affect troop ratings of variety, at least as compared to the FY89 version. The question of whether variety (which could be identified by the number of food items available at one meal, the frequency at which meals repeat over days, or the perceived similarity among foods served) can enhance ration consumption in the field remains to be tested and should be in future studies.

6. Supplemental food items such as bread, milk, fresh fruit, and salad provided approximately a third of overall caloric intake. This means that the supplements are a critical component in the T Ration module. Such supplements must be included in the future as well or intake of calories and the various nutrients will likely fall further short.

7. The lunchtime MRE was generally well received, although the two breakfast entrees were given mean acceptability scores below the neutral point on the 9-point rating scale. Providing the troops with the capability to heat MREs (e.g., heat tabs or flameless ration heater pads) may improve acceptance of the breakfast entrees (as well as other entrees) and may also encourage consumption of hot beverages.

## VI. References

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**APPENDIX A. Volunteer Agreement Affidavit**

# VOLUNTEER AGREEMENT AFFIDAVIT

For use of this form, see AR 70-25, the proponent agency is OTSG

## PRIVACY ACT OF 1974

Authority: 10 USC 3013, 44 USC 3101, and 10 USC 1071-1087

Principle Purpose: To document voluntary participation in the Clinical Investigation and Research Program. SSN and home address will be used for identification and locating purposes

Routine Uses: The SSN and home address will be used for identification and locating purposes. Information derived from the study will be used to document the study, implementation of medical programs, adjudication of claims, and for the mandatory reporting of medical conditions as required by law. Information may be furnished to Federal, State and local agencies.

Disclosure: The furnishing of your SSN and home address is mandatory and necessary to provide identification and to contact you if future information indicates that your health may be adversely affected. Failure to provide the information may preclude your voluntary participation in this investigational study.

## PART A(1) - VOLUNTEER AFFIDAVIT

### Volunteer Subjects in Approved Department of the Army Research Studies

Volunteers under the provisions of AR 40-38 and AR 70-25 are authorized all necessary medical care for injury or disease which is the proximate result of their participation in such studies.

I, \_\_\_\_\_, SSN \_\_\_\_\_,  
having full capacity to consent and having attained my \_\_\_\_\_ birthday, do hereby volunteer/give consent as legal  
representative for \_\_\_\_\_ to participate in \_\_\_\_\_

The T-Ration Evaluation

(Research study)

under the direction of \_\_\_\_\_  
conducted at \_\_\_\_\_

(Name of Institution)

The implications of my voluntary participation/consent as legal representative; duration and purpose of the research study; the methods and means by which it is to be conducted; and the inconveniences and hazards that may reasonably be expected have been explained to me by

MAJ Charles Salter, Natick R,D&E Center

Contact telephone(s): 508-651-4901

I have been given an opportunity to ask questions concerning this investigational study. Any such questions were answered to my full and complete satisfaction. Should any further questions arise concerning my rights/the rights of the person I represent on study-related injury, I may contact

Office of Chief Counsel

at US Army Natick Research, Development and Engineering Center (508)651-4322

(Name, Address and Phone Number of Hospital (Include Area Code))

I understand that I may at any time during the course of this study revoke my consent and withdraw/leave the person I represent withdrawn from the study without further penalty or loss of benefits; however, if the person I represent may be required (military volunteer) or requested (civilian volunteer) to undergo certain examination if, in the opinion of the attending physician, such examinations are necessary for my/the person I represent's health and well-being. My/the person I represent's refusal to participate will involve no penalty or loss of benefits to which I am/the person I represent is otherwise entitled.

## PART A (2) - ASSENT VOLUNTEER AFFIDAVIT (MINOR CHILD)

I, \_\_\_\_\_, SSN \_\_\_\_\_, having full  
capacity to consent and having attained my \_\_\_\_\_ birthday, do hereby volunteer for \_\_\_\_\_  
\_\_\_\_\_ to participate in \_\_\_\_\_

(Research Study)

under the direction of \_\_\_\_\_  
conducted at \_\_\_\_\_

(Name of Institution)

(Continue on Reverse)

**PART A(2) - ASSENT VOLUNTEER AFFIDAVIT (MINOR CHILD) (Cont'd.)**

The implications of my voluntary participation; the nature, duration and purpose of the research study; the methods and means by which it is to be conducted; and the inconveniences and hazards that may reasonably be expected have been explained to me by

I have been given an opportunity to ask questions concerning the investigational study. Any such questions were answered to my full and complete satisfaction. Should any further questions arise concerning my rights I may contact

at

(Name, Address, and Phone Number of Hospital (Include Area Code))

I understand that I may at any time during the course of this study revoke my assent and withdraw from the study without further penalty or loss of benefits; however, I may be requested to undergo certain examination if, in the opinion of the attending physician, such examinations are necessary for my health and well-being. My refusal to participate will involve no penalty or loss of benefits to which I am otherwise entitled.

**PART B - TO BE COMPLETED BY INVESTIGATOR**

**INSTRUCTIONS FOR ELEMENTS OF INFORMED CONSENT:** (Provide a detailed explanation in accordance with Appendix E, AR 40-58 or AR 70-36.)

The purpose of this study is to evaluate the T-ration for ~~intake and acceptance in a field training environment. The study~~ will take place for 14 days during your field training exercises at the Pohakuloa Training Center in Hawaii. As a volunteer, you will be asked to rate the acceptability of two T-ration meals (breakfast and dinner) and an MRE lunch each day. You will be asked to consume and rate the acceptability of the items served at these meals by circling numbers corresponding to your attitudes on a one-page form. You may eat as little or as much as you choose. However, in order to better evaluate the T-ration, you should not eat any foods other than those provided. The investigators will meet with you at breakfast and at dinner to estimate the amount of food you consumed at these meals and to collect your ratings of the meals. For the MRE lunch, you will be provided with a plastic bag to collect food wrappers, leftover food, etc. in order to assess how much you have eaten. You will also be given a one-page form on which you can indicate your attitudes toward the food items. The estimated time required per day for this evaluation is about six to ten minutes at breakfast and dinner. Prior to beginning the study you will be asked to fill out a short, confidential background information questionnaire. At the conclusion of the study you will be asked to complete a questionnaire requiring approximately

(continued)

I ☐ do ☐ do not ☐ (check one & initial) consent to the inclusion of this form in my outpatient medical treatment record.

SIGNATURE OF VOLUNTEER	DATE	SIGNATURE OF LEGAL GUARDIAN (if volunteer is a minor)	
PERMANENT ADDRESS OF VOLUNTEER	TYPED NAME OF WITNESS		
	SIGNATURE OF WITNESS		DATE

30 minutes of your time. This confidential questionnaire will ask you for some background information and cover such topics as your evaluation of individual ration items.

In addition, you will be weighed several times throughout the evaluation and will also be asked to provide a urine sample several times during the course of the evaluation. The results of this urine test will be used only to ensure that you are not in danger of becoming dehydrated. On the evening before the urine tests, you will be issued a small plastic bottle. When you wake up the next morning you should fill the bottle with your first void, then bring it to the weighing room where we will collect the bottles and take your body weight. For this weighing, you should remove your gear, equipment, and BDU shirts just before getting on the scale.

This study should produce no additional discomfort for you beyond whatever you would normally encounter during scheduled field exercises. Although this study will have no direct benefit for you, your participation will provide important information on improving T-ration feeding. You have the right to withdraw from the study at any time, however this will not end your participation in the field exercise or change your access to field dining facilities. You will receive a copy of this consent form and you are encouraged to ask any questions you may have.

You may request to see your own results or you may request to see the final report of the study. All data and information obtained about you as an individual will be considered privileged and held in confidence. Complete confidentiality cannot be promised, particularly to subjects who are military members, because information bearing on your health may be required to be reported to appropriate medical or Command authorities, and applicable regulations note the possibility that the Food and Drug Administration and USAMRDC officials may inspect the records.

Thank you for your help.

SIGNATURE OF VOLUNTEER	DATE SIGNED	SIGNATURE OF LEGAL GUARDIAN (If volunteer is a minor)	
PERMANENT ADDRESS OF VOLUNTEER	TYPED OR PRINTED NAME AND SIGNATURE OF WITNESS		DATE SIGNED



**APPENDIX B. Background Information Questionnaire**



12. In what part of the country did you live the longest before age 16? (fill in appropriate circle)

- ☐ 1. New England (ME, NH, VT, MA, CT, RI)  
☐ 2. Middle Atlantic (NJ, NY, PA)  
☐ 3. South Atlantic (DE, MD, VA, WV, NC, SC, GA, FL, DC)  
☐ 4. North Central (OH, IN, IL, MI, WI, MN, IA, MO, ND, SD, NE, KS)  
☐ 5. South Central (KY, TN, AL, MS, AR, LA, OK, TX)  
☐ 6. Mountain (ID, WY, CO, MT, AZ, NM, UT, NV)  
☐ 7. Pacific (WA, OR, CA, AK, HI)  
☐ 8. Other (please specify) \_\_\_\_\_

13. Do you have any food allergies? YES ☐ NO ☐

IF YES, please list the foods you are allergic to: \_\_\_\_\_

14. Are you on a restricted diet? YES ☐ NO ☐

IF YES, Please explain and list foods that are not on your diet: \_\_\_\_\_

15. Do you avoid any foods due to medical reasons? YES ☐ NO ☐

IF YES, please explain(if possible) and list food: \_\_\_\_\_

12. OTHER


0 1 2 3 4 5 6 7 8 9

13. ALLERGY


0 1 2 3 4 5 6 7 8 9

14. DIET


0 1 2 3 4 5 6 7 8 9

15. MEDICAL


0 1 2 3 4 5 6 7 8 9

**APPENDIX C. Weight Checklist Form**

# **WEIGHT CHECKLIST**

SUB NAME \_\_\_\_\_  
SUB ID \_\_\_\_\_  
DATA COLLECTOR \_\_\_\_\_

WEIGHT \_\_\_\_\_

## **BOOTS (check one)**

COMBAT \_\_\_\_\_

CORCORAN \_\_\_\_\_

JUNGLE \_\_\_\_\_

OTHER \_\_\_\_\_

## **SOCKS (check one)**

WOOL \_\_\_\_\_ 1 PAIR \_\_\_\_\_ 2PAIR \_\_\_\_\_

SPORT \_\_\_\_\_ 1 PAIR \_\_\_\_\_ 2PAIR \_\_\_\_\_

OTHER \_\_\_\_\_ 1 PAIR \_\_\_\_\_ 2PAIR \_\_\_\_\_

## **CLOTHES (check all that are worn)**

T-SHIRT: \_\_\_\_\_

SHORTS \_\_\_\_\_

BDU: TROUSERS \_\_\_\_\_  
SHIRT \_\_\_\_\_

HOT WEATHER \_\_\_\_\_  
COLD WEATHER \_\_\_\_\_

BELT: \_\_\_\_\_

LONGJOHN: TOP \_\_\_\_\_  
BOTTOM \_\_\_\_\_

SLEEP SHIRT: \_\_\_\_\_

OTHER: (Please Write in)

**APPENDIX D. Water Intake Form**

NAME \_\_\_\_\_

ID \_\_\_\_\_

DATA COLLECTOR \_\_\_\_\_

**WATER INTAKE**

Please estimate the number of quarts of PLAIN water (nothing in it) you drank during each time period listed below and fill in the bubbles below the amount. If you drank more than 2 quarts of water during any one time period, write in the total amount on the line to the right of the number "2".

**Between Breakfast and Lunch**

<input type="radio"/>	0
<input type="radio"/>	1/4
<input type="radio"/>	1/2
<input type="radio"/>	3/4
<input type="radio"/>	1
<input type="radio"/>	1 1/4
<input type="radio"/>	1 1/2
<input type="radio"/>	1 3/4
<input type="radio"/>	2
<input type="radio"/>	more than 2 _____

(please fill in amount)

**During Lunch**

<input type="radio"/>	0
<input type="radio"/>	1/4
<input type="radio"/>	1/2
<input type="radio"/>	3/4
<input type="radio"/>	1
<input type="radio"/>	1 1/4
<input type="radio"/>	1 1/2
<input type="radio"/>	1 3/4
<input type="radio"/>	2
<input type="radio"/>	more than 2 _____

(please fill in amount)

**Between Lunch and Dinner**

<input type="radio"/>	0
<input type="radio"/>	1/4
<input type="radio"/>	1/2
<input type="radio"/>	3/4
<input type="radio"/>	1
<input type="radio"/>	1 1/4
<input type="radio"/>	1 1/2
<input type="radio"/>	1 3/4
<input type="radio"/>	2
<input type="radio"/>	more than 2 _____

(please fill in amount)

**Between Dinner and Breakfast  
(Overnight)**

<input type="radio"/>	0
<input type="radio"/>	1/4
<input type="radio"/>	1/2
<input type="radio"/>	3/4
<input type="radio"/>	1
<input type="radio"/>	1 1/4
<input type="radio"/>	1 1/2
<input type="radio"/>	1 3/4
<input type="radio"/>	2
<input type="radio"/>	more than 2 _____

(please fill in amount)

**DO NOT WRITE BELOW THE LINE**

ID																			
----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

GROUP	
1	
2	

DAY

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

BREAKFAST - LUNCH

0	1	2	3	4	5	6	7	8	9

LUNCH

0	1	2	3	4	5	6	7	8	9

LUNCH - DINNER

0	1	2	3	4	5	6	7	8	9

DINNER - BREAKFAST

0	1	2	3	4	5	6	7	8	9

**APPENDIX E. MRE Intake Record**



# MRE INTAKE RECORD

NAME: \_\_\_\_\_  
 SSN: (Last four digits) \_\_\_\_\_  
 DATE: \_\_\_\_\_

FOOD TYPE	CODE	FOOD ITEM	AMOUNT EATEN (Circle One)	WHEN EATEN (Time)	WATER ADDED (Canteen Cups)	DISLIKE 1	EXTREMELY 2	DISLIKE 3	VERY MUCH 4	DISLIKE 5	MODERATELY 6	SLIGHTLY 7	NEITHER LIKE/DISLIKE 8	LIKE 9	SLIGHTLY 10	MODERATELY 11	VERY MUCH 12	EXTREMELY 13
ENTREE	00	Pork w/Rice, BBQ Sae	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	01	Corned Beef Hash	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	02	Chicken Stew	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	03	Omelet with Ham	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	04	Spaghetti, Meat Sauce	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	05	Chicken a la King	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	06	Beef Stew	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	07	Ham Slice	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	08	Meatballs, Rice & Sae	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	09	Tuna with Noodles	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	10	Chicken & Rice	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
11	Esc. Potato w/ Ham	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9					
STARCH	16	Potato au Gratin	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	17	Crackers	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
SPREAD	22	Cheese Spread	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	23	Jelly	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	24	Peanut Butter	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
FRUIT	29	Applesauce	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	30	Fruit Mix	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	31	Peaches	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	32	Pears	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	33	Strawberries	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
DESSERT	38	Brownies	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	39	Cherry Nut Cake	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	40	Choc. Covered Cookie	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	41	Maple Nut Cake	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	42	Oatmeal Cookie Bar	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	43	Chocolate Nut Cake	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
BEVERAGE	48	Grape Beverage	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	49	Orange Beverage	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	50	Lemon Lime Beverage	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	51	Cherry Beverage	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	52	Cocoa	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
	53	Coffee	0 1/4 1/2 3/4 1 or	_____	_____	1	2	3	4	5	6	7	8	9				
OTHER	59	Charms	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	60	M & M	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	61	Caramel	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	62	Gum	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	63	Hot Sauce	0 1/4 1/2 3/4 1 or	_____	NA	1	2	3	4	5	6	7	8	9				
	64	Cream Substitute	0 1/4 1/2 3/4 1 or	_____	NA	NA												
	65	Sugar	0 1/4 1/2 3/4 1 or	_____	NA	NA												
	66	Salt	0 1/4 1/2 3/4 1 or	_____	NA	NA												
ADDITIONAL ITEMS	_____	0 1/4 1/2 3/4 1 or	_____	NA	NA													
	_____	0 1/4 1/2 3/4 1 or	_____	NA	NA													
	_____	0 1/4 1/2 3/4 1 or	_____	NA	NA													

**APPENDIX F. T Ration Portion Size Estimation Form**

# T-RATION PLATEWASTE

	WEST. OMELET	POTATOES w/ BACON	PEACHES	BREAD	O.J.	COFFEE	COCOA	STRAW. OATMEAL	APPLE	WHITE MILK	CHOC. MILK	FROSTED FLAKES		
SOLDIER 1	WASTE													
SOLDIER 2														
SOLDIER 3														
SOLDIER 4														
SOLDIER 5														
SOLDIER 6														
SOLDIER 7														
SOLDIER 8														

**APPENDIX G. T Ration Acceptability Forms**

# T-RATION ACCEPTABILITY

Name \_\_\_\_\_

Study ID Number \_\_\_\_\_

Please use the scale below to indicate your like/dislike of the T-rations you ate at this meal.

DID NOT EAT 0	DISLIKE				NEITHER			LIKE		
	DISLIKE	VERY	DISLIKE	DISLIKE	NOR	LIKE	LIKE	VERY	LIKE	
	EXTREMELY	MUCH	MODERATELY	SLIGHTLY	DISLIKE	SLIGHTLY	MODERATELY	MUCH	EXTREMELY	
	1	2	3	4	5	6	7	8	9	

	0	1	2	3	4	5	6	7	8	9
Western Omelet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Potatoes with Bacon Pieces	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Orange Juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coffee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cocoa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oatmeal _____ (what flavor)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fresh Fruit _____ (what kind)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Milk _____ White Chocolate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cereal _____ (what kind)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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DAY 1 2 3 4 5 6 7 8 9 10 11 12 13 14

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OATMEAL

<input type="text"/>	<input type="text"/>	<input type="text"/>
S	M	A

FRUIT

<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

GROUP

1	<input type="text"/>
2	<input type="text"/>

MEAL

AM	<input type="text"/>
PM	<input type="text"/>

CEREAL

<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

OTHER

0 1 2 3 4 5 6 7 8 9

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<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

# T-RATION ACCEPTABILITY

Name \_\_\_\_\_

Study ID Number \_\_\_\_\_

Please use the scale below to indicate your like/dislike of the T-rations you ate at this meal.

DID NOT EAT 0	DISLIKE				NEITHER		LIKE			
	DISLIKE	VERY	DISLIKE	DISLIKE	LIKE	LIKE	LIKE	VERY	LIKE	
	EXTREMELY	MUCH	MODERATELY	SLIGHTLY	DISLIKE	SLIGHTLY	MODERATELY	MUCH	EXTREMELY	
	1	2	3	4	5	6	7	8	9	

	0	1	2	3	4	5	6	7	8	9
Chicken Breast with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Glazed Sweet Potatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peas with Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peanut Butter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jelly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grape Drink	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coffee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cherry Dessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fresh Fruit _____ (what kind)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Milk _____ White Chocolate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetable _____ (what kind)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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ID 0 1 2 3 4 5 6 7 8 9

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SALAD

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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FRUIT

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

GROUP MEAL

1 <input type="checkbox"/>	AM <input type="checkbox"/>
2 <input type="checkbox"/>	PM <input type="checkbox"/>

VEGE

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

OTHER 0 1 2 3 4 5 6 7 8 9

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**APPENDIX H. Final Questionnaire: FY89 Group**

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- ☐ a. Ate too little food
- ☐ b. Drank too little water/beverage
- ☐ c. Too much physical activity
- ☐ d. Other (specify) \_\_\_\_\_

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If YES, how often did you use tobacco during the past two weeks of the field exercise?

- ☐ a. Never
- ☐ b. A few times a week
- ☐ c. One to three times a day
- ☐ d. More than three times a day

Was this usage: ☐ a. More than usual  
☐ b. Less than usual  
☐ c. The same

11. How often did you get enough sleep during this exercise?

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Never                 | Rarely                | Sometimes             | Usually               | Always                |
| 1                     | 2                     | 3                     | 4                     | 5                     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

12. How would you describe your level of physical activity during this exercise? .

- ☐ a. Heavy daily physical activity
- ☐ b. Moderate daily physical activity
- ☐ c. Light daily physical activity
- ☐ d. Mixed activity day-to-day

13. Overall, how often were you hungry during this exercise? Fill in the circle below your answer.

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Never Hungry          | Rarely Hungry         | Sometimes Hungry      | Usually Hungry        | Always Hungry         |
| 1                     | 2                     | 3                     | 4                     | 5                     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

14. Overall, how often were you thirsty during this exercise? Fill in the circle below your answer.

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Never Thirsty         | Rarely Thirsty        | Sometimes Thirsty     | Usually Thirsty       | Always Thirsty        |
| 1                     | 2                     | 3                     | 4                     | 5                     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

15. How easy/difficult was it to obtain water? Fill in the circle under your answer.

- |                       |                       |                       |                            |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|-----------------------|
| Extremely Difficult   | Moderately Difficult  | Somewhat Difficult    | Neither Easy Nor Difficult | Somewhat Easy         | Moderately Easy       | Extremely Easy        |
| 1                     | 2                     | 3                     | 4                          | 5                     | 6                     | 7                     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

16. How did you obtain water? Fill in the circle next to all answers that apply.

- ☐ a. From a stream
- ☐ b. From a lake or pond
- ☐ c. 5 gallon cans
- ☐ d. Water Buffalo
- ☐ e. Other (please write in) \_\_\_\_\_

0	1	2	3	4	5	6	7	8	9

17. We would like your honest evaluation of the T-Ration **BREAKFAST** items you ate during this exercise. Using the scale below, please fill in the circle below the number that best describes your opinion of each item. If you never tried an item, fill in the circle under "0".

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY					
0	1	2	3	4	5	6	7	8	9					
<b>T-RATION BREAKFAST ITEMS</b>					0	1	2	3	4	5	6	7	8	9
1. Eggs and Ham	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Omelet with Bacon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Bread Pudding with Ham	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Omelet with Sausage and Potatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Creamed Ground Beef	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Western Omelet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Bacon and Cheese Omelet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Pork Sausage Links	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Canadian Bacon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Corned Beef Hash	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Escalloped Potatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Potatoes with Bacon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Hominy Grits with Cheese and Bacon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Cornmeal Cereal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Strawberry Oatmeal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Maple and Brown Sugar Oatmeal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Apple Cinnamon Oatmeal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Apple Coffee Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Spice Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Blueberry Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Apple Dessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Blueberry Dessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Applesauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Peaches in Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Pears in Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Fruit Cocktail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Orange Juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Grape Juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Coffee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Cocoa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional Breakfast Items _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. We would like your honest evaluation of the T-Ration items you ate for **DINNER** during this exercise. Using the scale below, please fill in the circle below the number that best describes your opinion of each item. If you never tried an item, fill in the circle under "0".

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
0	1	2	3	4	5	6	7	8	9

T- RATION DINNER ITEMS	0	1	2	3	4	5	6	7	8	9
1. Chicken Breast with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Lasagna with Meat Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Beef Swiss Steak with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Spaghetti with Meatballs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Beef Stew	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Beef in Barbeque Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Chicken a la King	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Swedish Meatballs in Brown Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Beef Pot Roast with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Beef Tips with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Chicken Cacciatore	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Beef Strips and Green Peppers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Barbeque Pork	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Chili	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Glazed Sweet Potatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Potatoes with Butter Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Potato Salad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Spanish Rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Buttered Noodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Macaroni Salad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Macaroni and Cheese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Peas with Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Green Beans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Corn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Mixed Vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Slice Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Peas with Mushrooms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Peaches in Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Pears in Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Fruit Cocktail in Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

BREAKFAST																													
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9

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on next page)

(Continued)

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
0	1	2	3	4	5	6	7	8	9

**T- RATION DINNER ITEMS**

	0	1	2	3	4	5	6	7	8	9
32. Marble Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. Spice Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Blueberry Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Apple Dessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. Cherry Dessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. Chocolate Pudding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. Bread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Peanut Butter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Jelly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. Orange Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. Grape Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. Lemon Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. Lemon-Lime Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. Milk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. Coffee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. Additional Items _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48. _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Do you think any food or beverages should be DROPPED from the T-Ration?

☐ YES ☐ NO

If YES, please list the item(s). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

20. Do you think any food or beverages should be ADDED to the T-Ration?

☐ YES ☐ NO

If YES, please list the item(s). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

47	<table><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td></td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9		48	<table><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td></td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9		49	<table><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td></td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9		20	<table><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td></td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9	
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21. We would like your honest evaluation of the MRE items you ate. Using the scale below, please fill in the circle below the number that best describes your opinion of each item. If you never tried an item, fill in the circle under "0".

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
0	1	2	3	4	5	6	7	8	9

### MRE ITEMS

	0	1	2	3	4	5	6	7	8	9
1. Pork w/ Rice and BBQ Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Corned Beef Hash	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Chicken Stew	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Omelet with Ham	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Spaghetti with Meat Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Chicken a la King	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Beef Stew	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Ham Slice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Meatballs with Rice and Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Tuna with Noodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Chicken and Rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Escalloped Potatoes with Ham	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Crackers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Potato au Gratin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Cheese Spread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Jelly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Peanut Butter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Applesauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Fruit Mix	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Peaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Pears	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Strawberries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Brownie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Cherry Nut Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Chocolate Covered Cookie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Maple Nut Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Oatmeal Cookie Bar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Chocolate Nut Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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24. If you could have your choice, pick which ration (MRE or T-Ration) you would like to have for breakfast, lunch, and dinner. Fill in one bubble for each meal.

	MRE	T-RATION
a. Breakfast	<input type="radio"/>	<input type="radio"/>
b. Lunch	<input type="radio"/>	<input type="radio"/>
c. Dinner	<input type="radio"/>	<input type="radio"/>

25. For the following questions, use the scale below to indicate your opinion of the MRE and T-Rations.

Never Tried	Dislike Extremely	Dislike Very Much	Dislike Moderately	Dislike Slightly	Neither Like Nor Dislike	Like Slightly	Like Moderately	Like Very Much	Like Extremely
0	1	2	3	4	5	6	7	8	9

How much did you like or dislike the APPEARANCE?

	0	1	2	3	4	5	6	7	8	9
T-Ration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much did you like or dislike the VARIETY OF FOODS?

	0	1	2	3	4	5	6	7	8	9
T-Ration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OVERALL, how much did you LIKE the two rations?

	0	1	2	3	4	5	6	7	8	9
T-Ration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. Please use the following scale to rate the PORTION SIZES of the following T-RATION items?

MUCH TOO SMALL	SOMEWHAT TOO SMALL	JUST RIGHT	SOMEWHAT TOO LARGE	MUCH TOO LARGE
1	2	3	4	5

	1	2	3	4	5
Entrees (main dish)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starches (potato, macaroni, rice)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fruits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Desserts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beverages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Please use the following scale to rate the **PORTION SIZES** of the following MRE items?

**MUCH TOO SMALL**  
1

**SOMEWHAT TOO SMALL**  
2

**JUST RIGHT**  
3

**SOMEWHAT TOO LARGE**  
4

**MUCH TOO LARGE**  
5

	1	2	3	4	5
Entrees (main dish)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starches (potato, crackers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fruits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Desserts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beverages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. During this exercise, what was the average **TEMPERATURE** of the main dish of the T-Ration:

**WHEN IT WAS SERVED?**

- ☐ a. Cold  
☐ b. Cool  
☐ c. Neutral  
☐ d. Warm  
☐ e. Hot

**WHEN YOU ATE IT?**

- ☐ a. Cold  
☐ b. Cool  
☐ c. Neutral  
☐ d. Warm  
☐ e. Hot

29. During this exercise, how did you heat the main dish in your MRE? Please fill in the circle next to all that apply.

- ☐ a. Did not heat the MRE entree in the field (go to question 31)  
☐ b. Canteen cup and heat tabs  
☐ c. Canteen cup stand, canteen cup and heat tabs  
☐ d. MRE heater pads  
☐ e. Mounted vehicle heater  
☐ f. Heated ration on engine block of vehicle  
☐ g. Squad stove  
☐ h. Yukon stove  
☐ i. Optimus ranger stove  
☐ j. Sterno  
☐ k. Other (specify) \_\_\_\_\_

0	<input type="checkbox"/>	<input type="checkbox"/>
1	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>

30. How often did you **HEAT** the main dish in your MRE? Please fill in the circle next to your answer.

- ☐ a. Never  
☐ b. Once during this exercise  
☐ c. Several times during this exercise (please specify) \_\_\_\_\_  
☐ d. Many times during this exercise (please specify) \_\_\_\_\_  
☐ e. Every day

30c	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30d	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0	1	2	3	4	5	6	7	8	9		0	1	2	3	4	5	6	7	8	9							



31. If a heating system was included with the MRE, how often do you think you would use it?

Never 1      Rarely 2      Sometimes 3      Usually 4      Always 5

☐      ☐      ☐      ☐      ☐

32. On the average, how much time were you allowed to eat a meal? (please specify) \_\_\_\_\_ minutes

33. How much time would you LIKE to have to eat a meal? (please specify) \_\_\_\_\_ minutes

34. When you ate the following meals, how many other people did you eat with?

	BREAKFAST	LUNCH	DINNER
a. Ate alone with no one else around	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Ate alone, but with most of the unit in the immediate area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. With a small group away from the rest of the unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. With a small group, but with most of the unit in the immediate area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. With a large group of people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Other (specify) _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. When you ate the following meals did you usually: (fill in all that apply)

	BREAKFAST	LUNCH	DINNER
a. Relax and enjoy your meal time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Move while eating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Have to eat quickly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Other (specify) _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. How often have you had the T-Ration before this exercise?

☐ a. Never  
☐ b. Once  
☐ c. Several times  
☐ d. Many times

32.

0	1	2	3	4	5	6	7	8	9

33.

0	1	2	3	4	5	6	7	8	9

34.

0	1	2	3	4	5	6	7	8	9

35.

0	1	2	3	4	5	6	7	8	9

37. Did you eat any food during this exercise other than the rations provided? ☐ YES ☐ NO

If YES, please list the foods, how much you ate of each, and how often you ate them.

FOOD	HOW MUCH	HOW MANY TIMES

38. What do you like the most about the T-Ration?

39. What do you like the least about the T-Ration?

40. Do you have any other comments about the MRE or T-Ration?

**APPENDIX I. Final Questionnaire: FY90 Group**

# TRAY-RATION FINAL QUESTIONNAIRE

Thank you for participating in our T-Ration evaluation. We would like to ask you your overall opinion of the T-Ration. Your opinions will be very important in determining any changes that will be made in the ration.. Your answers will be kept confidential. Please answer honestly and thoughtfully.

1. Your name: \_\_\_\_\_
2. Your Social Security Number (Last four digits only): \_\_\_\_\_
3. Your rank: E-\_\_\_\_\_ W-\_\_\_\_\_ O-\_\_\_\_\_
4. Your Battery: \_\_\_\_\_ Platoon: \_\_\_\_\_ Section: \_\_\_\_\_
5. What is your gender? ☐ Male ☐ Female
6. What is your height? \_\_\_\_\_ft \_\_\_\_\_in  
What is your weight \_\_\_\_\_lbs
7. Are you currently trying to: ☐ lose weight? ☐ gain weight? ☐ neither
8. What is your ideal weight? \_\_\_\_\_lbs
9. Do you think you gained or lost weight during this exercise? .  
☐ Gained ☐ Lost ☐ Neither gained nor lost weight

If you think you GAINED weight,  
what were some of the reasons?

- ☐ a. Ate too much food
- ☐ b. Drank too much water/beverage
- ☐ c. Too little physical activity
- ☐ d. Other (specify) \_\_\_\_\_

If you think you LOST weight,  
what were some of the reasons?

- ☐ a. Ate too little food
- ☐ b. Drank too little water/beverage
- ☐ c. Too much physical activity
- ☐ d. Other (specify) \_\_\_\_\_

## DO NOT WRITE BELOW THIS LINE

SUBJ											
	0	1	2	3	4	5	6	7	8	9	
E O WO											
	1	2	3	4	5	6	7	8	9		
B P S											
	4	5	6								
FT IN											
	0	1	2	3	4	5	6	7	8	9	10
WT											
	0	1	2	3	4	5	6	7	8	9	
IDEAL											
	0	1	2	3	4	5	6	7	8	9	
GAINED											
	0	1	2	3	4	5	6	7	8	9	
LOST											
	0	1	2	3	4	5	6	7	8	9	

10. Do you smoke or use tobacco products? ☐ YES ☐ NO

If YES, how often did you use tobacco during the past two weeks of the field exercise?

- ☐ a. Never  
☐ b. A few times a week  
☐ c. One to three times a day  
☐ d. More than three times a day

Was this usage:

- ☐ a. More than usual  
☐ b. Less than usual  
☐ c. The same

11. How often did you get enough sleep during this exercise?

- Never 1 ☐ Rarely 2 ☐ Sometimes 3 ☐ Usually 4 ☐ Always 5 ☐

12. How would you describe your level of physical activity during this exercise? .

- ☐ a. Heavy daily physical activity  
☐ b. Moderate daily physical activity  
☐ c. Light daily physical activity  
☐ d. Mixed activity day-to-day

13. Overall, how often were you hungry during this exercise? Fill in the circle below your answer.

- Never Hungry 1 ☐ Rarely Hungry 2 ☐ Sometimes Hungry 3 ☐ Usually Hungry 4 ☐ Always Hungry 5 ☐

14. Overall, how often were you thirsty during this exercise? Fill in the circle below your answer.

- Never Thirsty 1 ☐ Rarely Thirsty 2 ☐ Sometimes Thirsty 3 ☐ Usually Thirsty 4 ☐ Always Thirsty 5 ☐

15. How easy/difficult was it to obtain water? Fill in the circle under your answer.

- Extremely Difficult 1 ☐ Moderately Difficult 2 ☐ Somewhat Difficult 3 ☐ Neither Easy Nor Difficult 4 ☐ Somewhat Easy 5 ☐ Moderately Easy 6 ☐ Extremely Easy 7 ☐

16. How did you obtain water? Fill in the circle next to all answers that apply.

- ☐ a. From a stream  
☐ b. From a lake or pond  
☐ c. 5 gallon cans  
☐ d. Water Buffalo  
☐ e. Other (please write in) \_\_\_\_\_

0	1	2	3	4	5	6	7	8	9

17. We would like your honest evaluation of the T-Ration **BREAKFAST** items you ate during this exercise. ○

Using the scale below, please fill in the circle below the number that best describes your opinion of each item. If you never tried an item, fill in the circle under "0".

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
0	1	2	3	4	5	6	7	8	9
<b>T-RATION BREAKFAST ITEMS</b>									
1. Eggs and Ham	○	○	○	○	○	○	○	○	○
2. Omelet with Bacon	○	○	○	○	○	○	○	○	○
3. Bread Pudding with Ham	○	○	○	○	○	○	○	○	○
4. Omelet with Sausage and Potatoes	○	○	○	○	○	○	○	○	○
5. Creamed Ground Beef	○	○	○	○	○	○	○	○	○
6. Western Omelet	○	○	○	○	○	○	○	○	○
7. Omelet with Bacon and Cheese	○	○	○	○	○	○	○	○	○
8. Pork Sausage Links	○	○	○	○	○	○	○	○	○
9. Ham Slices	○	○	○	○	○	○	○	○	○
10. Corned Beef Hash	○	○	○	○	○	○	○	○	○
11. Potatoes with Bacon	○	○	○	○	○	○	○	○	○
12. Strawberry Oatmeal	○	○	○	○	○	○	○	○	○
13. Maple and Brown Sugar Oatmeal	○	○	○	○	○	○	○	○	○
14. Apple Cinnamon Oatmeal	○	○	○	○	○	○	○	○	○
15. Apple Coffee Cake	○	○	○	○	○	○	○	○	○
16. Blueberry Cake	○	○	○	○	○	○	○	○	○
17. Peaches with Syrup	○	○	○	○	○	○	○	○	○
18. Pears with Syrup	○	○	○	○	○	○	○	○	○
19. Fruit Cocktail	○	○	○	○	○	○	○	○	○
20. Maple Syrup	○	○	○	○	○	○	○	○	○
21. Orange Juice	○	○	○	○	○	○	○	○	○
22. Grape Juice	○	○	○	○	○	○	○	○	○
23. Coffee	○	○	○	○	○	○	○	○	○
24. Cocoa	○	○	○	○	○	○	○	○	○
Additional Breakfast Items _____	○	○	○	○	○	○	○	○	○
_____	○	○	○	○	○	○	○	○	○
_____	○	○	○	○	○	○	○	○	○

ADDITIONAL 1	ADDITIONAL 2	ADDITIONAL 3																																																																																										
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0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9																																																																																										

18. We would like your honest evaluation of the T-Ration items you ate for **DINNER** during this exercise. Using the scale below, please fill in the circle below the number that best describes your opinion of each item. If you never tried an item, fill in the circle under "0".

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
0	1	2	3	4	5	6	7	8	9

T- RATION DINNER ITEMS	0	1	2	3	4	5	6	7	8	9
1. Chicken Breast with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Lasagna with Meat Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Beef Pot Roast with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Beef Tips with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Chicken Cacciatore	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Beef Strips and Green Peppers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Barbeque Pork	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Chili	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Hamburgers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Turkey Slices with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Glazed Sweet Potatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Potatoes with Butter Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Macaroni and Cheese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Peas with Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Green Beans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Corn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Mixed Vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Slice Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Baked Beans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Applesauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Fruit Cocktail with Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Marble Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Spice Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Pound Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Chocolate Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Blueberry Dessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Chocolate Pudding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(Continued on next page)

(Continued)

NEVER TRIED | DISLIKE EXTREMELY | DISLIKE VERY MUCH | DISLIKE MODERATELY | DISLIKE SLIGHTLY | NEITHER LIKE NOR DISLIKE | LIKE SLIGHTLY | LIKE MODERATELY | LIKE VERY MUCH | LIKE EXTREMELY

0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

T- RATION DINNER ITEMS

	0	1	2	3	4	5	6	7	8	9
29. Bread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Hamburger Roll	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Peanut Butter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. Jelly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. Cheese Spread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Catsup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Mustard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. Relish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. Orange Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. Grape Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Lemon Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Lemon-Lime Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. Cherry Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. Milk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. Coffee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. Additional Items _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Do you think any food or beverages should be DROPPED from the T-Ration?

☐ YES

☐ NO

If YES, please list the item(s). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

20. Do you think any food or beverages should be ADDED to the T-Ration?

☐ YES

☐ NO

If YES, please list the item(s). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

44	<table><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td></td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9		45	<table><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td></td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9		46	<table><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td></td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9		20	<table><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td></td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9	
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We would like your honest evaluation of the MRE items you ate. Using the scale below, please fill in the circle below the number that best describes your opinion of each item. If you never tried an item, fill in the circle under "0".

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
0	1	2	3	4	5	6	7	8	9

**MRE ITEMS**

	0	1	2	3	4	5	6	7	8	9
1. Pork w/ Rice and BBQ Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Corned Beef Hash	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Chicken Stew	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Omelet with Ham	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Spaghetti with Meat Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Chicken a la King	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Beef Stew	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Ham Slice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Meatballs with Rice and Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Tuna with Noodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Chicken and Rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Escalloped Potatoes with Ham	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Crackers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Potato au Gratin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Cheese Spread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Jelly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Peanut Butter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Applesauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Fruit Mix	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Peaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Pears	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Strawberries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Brownie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Cherry Nut Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Chocolate Covered Cookie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Maple Nut Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Oatmeal Cookie Bar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Chocolate Nut Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(Continued on next page)



24. If you could have your choice, pick which ration (MRE or T-Ration) you would like to have for breakfast, lunch, and dinner. Fill in one bubble for each meal.

	MRE	T-RATION
a. Breakfast	<input type="radio"/>	<input type="radio"/>
b. Lunch	<input type="radio"/>	<input type="radio"/>
c. Dinner	<input type="radio"/>	<input type="radio"/>

25. For the following questions, use the scale below to indicate your opinion of the MRE and T-Rations.

Never Tried	Dislike Extremely	Dislike Very Much	Dislike Moderately	Dislike Slightly	Neither Like Nor Dislike	Like Slightly	Like Moderately	Like Very Much	Like Extremely
0	1	2	3	4	5	6	7	8	9

How much did you like or dislike the APPEARANCE?

	0	1	2	3	4	5	6	7	8	9
T- Ration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much did you like or dislike the VARIETY OF FOODS?

	0	1	2	3	4	5	6	7	8	9
T- Ration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OVERALL, how much did you LIKE the two rations?

	0	1	2	3	4	5	6	7	8	9
T- Ration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. Please use the following scale to rate the PORTION SIZES of the following T-RATION items?

MUCH TOO SMALL	SOMEWHAT TOO SMALL	JUST RIGHT	SOMEWHAT TOO LARGE	MUCH TOO LARGE
1	2	3	4	5

Entrees (main dish)

Starches (potato, macaroni, rice)

Vegetables

Fruits

Desserts

Beverages

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Please use the following scale to rate the **PORTION SIZES** of the following MRE items?

**MUCH TOO  
SMALL**  
1

**SOMEWHAT TOO  
SMALL**  
2

**JUST  
RIGHT**  
3

**SOMEWHAT TOO  
LARGE**  
4

**MUCH TOO  
LARGE**  
5

**Entrees (main dish)**

**Starches (potato, crackers)**

**Vegetables**

**Fruits**

**Desserts**

**Beverages**

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. During this exercise, what was the average **TEMPERATURE** of the main dish of the T-Ration:

**WHEN IT WAS SERVED?**

- ☐ a. Cold  
☐ b. Cool  
☐ c. Neutral  
☐ d. Warm  
☐ e. Hot

**WHEN YOU ATE IT?**

- ☐ a. Cold  
☐ b. Cool  
☐ c. Neutral  
☐ d. Warm  
☐ e. Hot

29. During this exercise, how did you heat the main dish in your MRE? Please fill in the circle next to all that apply.

- ☐ a. Did not heat the MRE entree in the field (go to question 31)  
☐ b. Canteen cup and heat tabs  
☐ c. Canteen cup stand, canteen cup and heat tabs  
☐ d. MRE heater pads  
☐ e. Mounted vehicle heater  
☐ f. Heated ration on engine block of vehicle  
☐ g. Squad stove  
☐ h. Yukon stove  
☐ i. Optimus ranger stove  
☐ j. Sterno  
☐ k. Other (specify) \_\_\_\_\_

0	<input type="checkbox"/>	<input type="checkbox"/>
1	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>

30. How often did you **HEAT** the main dish in your MRE? Please fill in the circle next to your answer.

- ☐ a. Never  
☐ b. Once during this exercise  
☐ c. Several times during this exercise (please specify) \_\_\_\_\_  
☐ d. Many times during this exercise (please specify) \_\_\_\_\_  
☐ e. Every day

30c	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30d	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	0	1	2	3	4	5	6	7	8	9		0	1	2	3	4	5	6	7	8	9							

31. If a heating system was included with the MRE, how often do you think you would use it?

- Never 1 ☐ Rarely 2 ☐ Sometimes 3 ☐ Usually 4 ☐ Always 5 ☐

32. On the average, how much time were you allowed to eat a meal? (please specify) \_\_\_\_\_ minutes

33. How much time would you LIKE to have to eat a meal? (please specify) \_\_\_\_\_ minutes

34. When you ate the following meals, how many other people did you eat with?

	BREAKFAST	LUNCH	DINNER
a. Ate alone with no one else around	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Ate alone, but with most of the unit in the immediate area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. With a small group away from the rest of the unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. With a small group, but with most of the unit in the immediate area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. With a large group of people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Other (specify) _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. When you ate the following meals did you usually: (fill in all that apply)

	BREAKFAST	LUNCH	DINNER
a. Relax and enjoy your meal time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Move while eating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Have to eat quickly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Other (specify) _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. How often have you had the T-Ration before this exercise?

- ☐ a. Never  
☐ b. Once  
☐ c. Several times  
☐ d. Many times

32.


0 1 2 3 4 5 6 7 8 9

33.


0 1 2 3 4 5 6 7 8 9

34.


0 1 2 3 4 5 6 7 8 9

35.


0 1 2 3 4 5 6 7 8 9



**APPENDIX J. Final Questionnaire: Other  
"Thunderex 2-90" Participants**

# TRAY-RATION FINAL QUESTIONNAIRE

Thank you for participating in our T-Ration evaluation. We would like to ask you your overall opinion of the T-Ration. Your opinions will be very important in determining any changes that will be made in the ration. Your answers will be kept confidential. Please answer honestly and thoughtfully.

1. Your name: \_\_\_\_\_
2. Your Social Security Number (Last four digits only): \_\_\_\_\_
3. Your rank: E-\_\_\_\_\_ W-\_\_\_\_\_ O-\_\_\_\_\_
4. Your Battery: \_\_\_\_\_ Platoon: \_\_\_\_\_ Section: \_\_\_\_\_
5. What is your gender? ☐ Male ☐ Female
6. What is your height? \_\_\_\_\_ ft \_\_\_\_\_ in  
What is your weight \_\_\_\_\_ lbs
7. Are you currently trying to: ☐ lose weight? ☐ gain weight? ☐ neither
8. What is your ideal weight? \_\_\_\_\_ lbs
9. Do you think you gained or lost weight during this exercise? .  
☐ Gained ☐ Lost ☐ Neither gained nor lost weight

If you think you GAINED weight,  
what were some of the reasons?

- ☐ a. Ate too much food
- ☐ b. Drank too much water/beverage
- ☐ c. Too little physical activity
- ☐ d. Other (specify) \_\_\_\_\_

If you think you LOST weight,  
what were some of the reasons?

- ☐ a. Ate too little food
- ☐ b. Drank too little water/beverage
- ☐ c. Too much physical activity
- ☐ d. Other (specify) \_\_\_\_\_

DO NOT WRITE BELOW THIS LINE

<p>SUBJ</p> <table border="1" style="width: 100px; height: 40px; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p style="text-align: center;">0 1 2 3 4 5 6 7 8 9</p>																					<p>B</p> <table border="1" style="width: 100px; height: 40px; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>P</p> <table border="1" style="width: 100px; height: 40px; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>S</p> <table border="1" style="width: 100px; height: 40px; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p style="text-align: center;">4 5 6</p> <p>FT</p> <table border="1" style="width: 100px; height: 40px; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>IN</p> <table border="1" style="width: 100px; height: 40px; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p style="text-align: center;">0 1 2 3 4 5 6 7 8 9 10 11</p>																																																																																																					<p>IDEAL</p> <table border="1" style="width: 100px; height: 40px; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p style="text-align: center;">0 1 2 3 4 5 6 7 8 9</p> <p>GAINED</p> <table border="1" style="width: 100px; height: 40px; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p style="text-align: center;">0 1 2 3 4 5 6 7 8 9</p> <p>LOST</p> <table border="1" style="width: 100px; height: 40px; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p style="text-align: center;">0 1 2 3 4 5 6 7 8 9</p>																																																												
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10. Do you smoke or use tobacco products? ☐ YES ☐ NO

If YES, how often did you use tobacco during the past two weeks of the field exercise?

- ☐ a. Never  
☐ b. A few times a week  
☐ c. One to three times a day  
☐ d. More than three times a day

Was this usage:

- ☐ a. More than usual  
☐ b. Less than usual  
☐ c. The same

11. How often did you get enough sleep during this exercise?

- Never 1 ☐ Rarely 2 ☐ Sometimes 3 ☐ Usually 4 ☐ Always 5 ☐

12. How would you describe your level of physical activity during this exercise? .

- ☐ a. Heavy daily physical activity  
☐ b. Moderate daily physical activity  
☐ c. Light daily physical activity  
☐ d. Mixed activity day-to-day

13. Overall, how often were you hungry during this exercise? Fill in the circle below your answer.

- Never Hungry 1 ☐ Rarely Hungry 2 ☐ Sometimes Hungry 3 ☐ Usually Hungry 4 ☐ Always Hungry 5 ☐

14. Overall, how often were you thirsty during this exercise? Fill in the circle below your answer.

- Never Thirsty 1 ☐ Rarely Thirsty 2 ☐ Sometimes Thirsty 3 ☐ Usually Thirsty 4 ☐ Always Thirsty 5 ☐

15. How easy/difficult was it to obtain water? Fill in the circle under your answer.

- Extremely Difficult 1 ☐ Moderately Difficult 2 ☐ Somewhat Difficult 3 ☐ Neither Easy Nor Difficult 4 ☐ Somewhat Easy 5 ☐ Moderately Easy 6 ☐ Extremely Easy 7 ☐

16. How did you obtain water? Fill in the circle next to all answers that apply.

- ☐ a. From a stream  
☐ b. From a lake or pond  
☐ c. 5 gallon cans  
☐ d. Water Buffalo  
☐ e. Other (please write in) \_\_\_\_\_

0	1	2	3	4	5	6	7	8	9

17. We would like your honest evaluation of the T-Ration **BREAKFAST** items you ate during this exercise. Using the scale below, please fill in the circle below the number that best describes your opinion of each item. If you never tried an item, fill in the circle under "0".

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
0	1	2	3	4	5	6	7	8	9

T-RATION BREAKFAST ITEMS	0	1	2	3	4	5	6	7	8	9
1. Eggs and Ham	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Omelet with Bacon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Bread Pudding with Ham	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Omelet with Sausage and Potatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Creamed Ground Beef	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Western Omelet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Bacon and Cheese Omelet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Pork Sausage Links	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Canadian Bacon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Corned Beef Hash	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Escalloped Potatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Potatoes with Bacon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Hominy Grits with Cheese and Bacon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Cornmeal Cereal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Strawberry Oatmeal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Maple and Brown Sugar Oatmeal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Apple Cinnamon Oatmeal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Apple Coffee Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Spice Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Blueberry Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Apple Dessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Blueberry Dessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Applesauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Peaches in Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Pears in Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Fruit Cocktail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Orange Juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Grape Juice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Coffee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Cocoa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional Breakfast Items _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
_____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. We would like your honest evaluation of the T-Ration items you ate for DINNER during this exercise.

Using the scale below, please fill in the circle below the number that best describes your opinion of each item. If you never tried an item, fill in the circle under "0".

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
0	1	2	3	4	5	6	7	8	9

### T- RATION DINNER ITEMS

	0	1	2	3	4	5	6	7	8	9
1. Chicken Breast with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Lasagna with Meat Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Beef Swiss Steak with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Spaghetti with Meatballs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Beef Stew	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Beef in Barbeque Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Chicken a la King	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Swedish Meatballs in Brown Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Beef Pot Roast with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Beef Tips with Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Chicken Cacciatore	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Beef Strips and Green Peppers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Barbeque Pork	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Chili	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Glazed Sweet Potatoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Potatoes with Butter Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Potato Salad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Spanish Rice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Buttered Noodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Macaroni Salad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Macaroni and Cheese	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Peas with Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Green Beans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Corn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Mixed Vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Slice Carrots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Peas with Mushrooms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Peaches in Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Pears in Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Fruit Cocktail in Syrup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### BREAKFAST

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	1	2	3	4	5	6	7	8	9

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	1	2	3	4	5	6	7	8	9

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	1	2	3	4	5	6	7	8	9

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(Continued)

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
0	1	2	3	4	5	6	7	8	9

**T- RATION DINNER ITEMS**

	0	1	2	3	4	5	6	7	8	9
32. Marble Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. Spice Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Blueberry Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Apple Dessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. Cherry Dessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. Chocolate Pudding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. Bread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Peanut Butter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Jelly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. Orange Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. Grape Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. Lemon Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. Lemon-Lime Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. Milk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. Coffee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. Additional Items _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48. _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Do you think any food or beverages should be DROPPED from the T-Ration?

☐ YES

☐ NO

If YES, please list the item(s). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

20. Do you think any food or beverages should be ADDED to the T-Ration?

☐ YES

☐ NO

If YES, please list the item(s). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

47	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	1	2	3	4	5	6	7	8	9	48	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	1	2	3	4	5	6	7	8	9	49	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	1	2	3	4	5	6	7	8	9	20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
0	1	2	3	4	5	6	7	8	9										

21. We would like your honest evaluation of the MRE items you ate. Using the scale below, please fill in the circle below the number that best describes your opinion of each item. If you never tried an item, fill in the circle under "0".

NEVER TRIED	DISLIKE EXTREMELY	DISLIKE VERY MUCH	DISLIKE MODERATELY	DISLIKE SLIGHTLY	NEITHER LIKE NOR DISLIKE	LIKE SLIGHTLY	LIKE MODERATELY	LIKE VERY MUCH	LIKE EXTREMELY
0	1	2	3	4	5	6	7	8	9

**MRE ITEMS**

	0	1	2	3	4	5	6	7	8	9
1. Pork Patties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Ham/Chicken Loaf	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Beef Patties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Beef w/BBQ Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Beef Stew	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Frankfurters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Diced Turkey w/Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Diced Beef w/Gravy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Chicken a la King	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Meatballs w/BBQ Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Ham Slices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Ground Beef w/Spiced Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Applesauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Fruit Mix	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Peaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Strawberries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Fruitcake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Cherry Nut Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Choc Covered Cookie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Maple Nut Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Orange Nut Cake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Brownie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Crackers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Beans w/Tomato Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Cheese Spread	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Jelly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Peanut Butter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Cocoa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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(Continued)

NEVER TRIED 0 | DISLIKE EXTREMELY 1 | DISLIKE VERY MUCH 2 | DISLIKE MODERATELY 3 | DISLIKE SLIGHTLY 4 | NEITHER LIKE NOR DISLIKE 5 | LIKE SLIGHTLY 6 | LIKE MODERATELY 7 | LIKE VERY MUCH 8 | LIKE EXTREMELY 9

MRE ITEMS

	0	1	2	3	4	5	6	7	8	9
29. Coffee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Cherry Flavored Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. Grape Flavored Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. Lemon-Lime Flavored Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Orange Flavored Beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Catsup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. Cream Substitute	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. Soup/Gravy Base	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Sugar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Salt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. Hot Sauce	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. Gum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. Candy (what kind?) _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. Additional Items _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. Do you think any food or beverages should be DROPPED from the MRE?

☐ YES ☐ NO

If YES, please list the item(s). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

23. Do you think any food or beverages should be ADDED to the MRE?

☐ YES ☐ NO

If YES, please list the item(s). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

44	<table border="1"><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9	45	<table border="1"><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9	46	<table border="1"><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9	23	<table border="1"><tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr></table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	1	2	3	4	5	6	7	8	9
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<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																	
0	1	2	3	4	5	6	7	8	9																																																																																		

24. If you could have your choice, pick which ration (MRE or T-Ration) you would like to have for breakfast, lunch, and dinner. Fill in one bubble for each meal.

	MRE	T-RATION
a. Breakfast	<input type="radio"/>	<input type="radio"/>
b. Lunch	<input type="radio"/>	<input type="radio"/>
c. Dinner	<input type="radio"/>	<input type="radio"/>

25. For the following questions, use the scale below to indicate your opinion of the MRE and T-Rations.

Never Tried	Dislike Extremely	Dislike Very Much	Dislike Moderately	Dislike Slightly	Neither Like Nor Dislike	Like Slightly	Like Moderately	Like Very Much	Like Extremely
0	1	2	3	4	5	6	7	8	9

How much did you like or dislike the APPEARANCE?

	0	1	2	3	4	5	6	7	8	9
T-Ration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much did you like or dislike the VARIETY OF FOODS?

	0	1	2	3	4	5	6	7	8	9
T-Ration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OVERALL, how much did you LIKE the two rations?

	0	1	2	3	4	5	6	7	8	9
T-Ration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MRE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. Please use the following scale to rate the PORTION SIZES of the following T-RATION items?

MUCH TOO SMALL	SOMEWHAT TOO SMALL	JUST RIGHT	SOMEWHAT TOO LARGE	MUCH TOO LARGE
1	2	3	4	5

	1	2	3	4	5
Entrees (main dish)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starches (potato, macaroni, rice)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fruits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Desserts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beverages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Please use the following scale to rate the PORTION SIZES of the following MRE items?

MUCH TOO SMALL 1      SOMEWHAT TOO SMALL 2      JUST RIGHT 3      SOMEWHAT TOO LARGE 4      MUCH TOO LARGE 5

	1	2	3	4	5
Entrees (main dish)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starches (potato, crackers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fruits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Desserts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beverages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. During this exercise, what was the average TEMPERATURE of the main dish of the T-Ration:

WHEN IT WAS SERVED?

- ☐ a. Cold  
☐ b. Cool  
☐ c. Neutral  
☐ d. Warm  
☐ e. Hot

WHEN YOU ATE IT?

- ☐ a. Cold  
☐ b. Cool  
☐ c. Neutral  
☐ d. Warm  
☐ e. Hot

29. During this exercise, how did you heat the main dish in your MRE? Please fill in the circle next to all that apply.

- ☐ a. Did not heat the MRE entree in the field (go to question 31)  
☐ b. Canteen cup and heat tabs  
☐ c. Canteen cup stand, canteen cup and heat tabs  
☐ d. MRE heater pads  
☐ e. Mounted vehicle heater  
☐ f. Heated ration on engine block of vehicle  
☐ g. Squad stove  
☐ h. Yukon stove  
☐ i. Optimus ranger stove  
☐ j. Sterno  
☐ k. Other (specify) \_\_\_\_\_

0	<input type="checkbox"/>
1	<input type="checkbox"/>
2	<input type="checkbox"/>
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>
8	<input type="checkbox"/>
9	<input type="checkbox"/>

30. How often did you HEAT the main dish in your MRE? Please fill in the circle next to your answer.

- ☐ a. Never  
☐ b. Once during this exercise  
☐ c. Several times during this exercise (please specify) \_\_\_\_\_  
☐ d. Many times during this exercise (please specify) \_\_\_\_\_  
☐ e. Every day

30c	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30d	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	0	1	2	3	4	5	6	7	8	9		0	1	2	3	4	5	6	7	8	9



## Always

5

minutes

                     minutes

1

## DINNER

8



8

8

1

## DINNER



8



1

■

1

1

1

35

0	1	2	3	4	5	6	7	8	9

0	1	2	3	4	5	6	7	8	9

37. What is your age? \_\_\_\_\_ years

38. How long have you been in the Army? \_\_\_\_\_ years \_\_\_\_\_ month

39. Which ethnic group do you belong to? (fill in appropriate circle)

- ☐ 1. American Indian/Alaskan Native  
☐ 2. Asian/Pacific Islander  
☐ 3. Black  
☐ 4. Hispanic  
☐ 5. White, not of Hispanic origin  
☐ 6. Other (please specify) \_\_\_\_\_

40. In what part of the country did you live the longest before age 16? (fill in appropriate circle)

- ☐ 1. New England (ME, NH, VT, MA, CT, RI)  
☐ 2. Middle Atlantic (NJ, NY, PA)  
☐ 3. South Atlantic (DE, MD, VA, WV, NC, SC, GA, FL, DC)  
☐ 4. North Central (OH, IN, IL, MI, WI, MN, IA, MO, ND, SD, NE, KS)  
☐ 5. South Central (KY, TN, AL, MS, AR, LA, OK, TX)  
☐ 6. Mountain (ID, WY, CO, MT, AZ, NM, UT, NV)  
☐ 7. Pacific (WA, OR, CA, AK, HI)  
☐ 8. Other (please specify) \_\_\_\_\_

**DO NOT WRITE BELOW THIS LINE**

AGE


0 1 2 3 4 5 6 7 8 9

YEARS


MONTH


0 1 2 3 4 5 6 7 8 9

39.


0 1 2 3 4 5 6 7 8 9

40.


0 1 2 3 4 5 6 7 8 9

41. Did you eat any food during this exercise other than the rations provided? ☐ YES ☐ NO

If YES, please list the foods, how much you ate of each, and how often you ate them.

FOOD	HOW MUCH	HOW MANY TIMES

42. What do you like the most about the T-Ration?

43. What do you like the least about the T-Ration?

44. Do you have any other comments about the MRE or T-Ration?

**APPENDIX K. T Ration Menus and Nutrient Information**

## **FY89 T RATION MENU**

### **BREAKFAST**

1. Eggs/Ham  
Escalloped Potatoes  
Apple Coffee Cake  
Strawberry Oatmeal  
Bread/Milk  
Orange Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
2. Omelet w/Bacon Pieces  
Potatoes w/Bacon Pieces  
Apple Dessert  
Maple/Brown Sugar Oatmeal  
Bread/Milk  
Grape Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
3. Bread Pudding, Maple  
Flavored w/Ham  
Pork Sausage Links  
Blueberry Dessert  
Applesauce  
Bread/Milk  
Orange Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
4. Omelet w/Sausage and  
Potatoes  
Cornmeal Cereal  
Apple Coffee Cake  
Peaches w/Syrup  
Bread/Milk  
Grape Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
5. Creamed Ground Beef  
Potatoes w/Bacon Pieces  
Maple/Brown Sugar Oatmeal  
Applesauce  
Bread/Milk  
Grape Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa

### **LUNCH/DINNER**

1. Chicken Breasts w/Gravy  
Glazed Sweet Potatoes  
Peas w/Carrots  
Cherry Dessert  
Bread/Milk  
Grape Beverage Powder  
Coffee  
Peanut Butter/Jelly
2. Lasagna w/Meat Sauce  
Green Beans  
Marble Cake  
Chocolate Pudding  
Bread/Milk  
Orange Beverage Powder  
Coffee  
Peanut Butter/Jelly
3. Beef Swiss Steak w/Gravy  
Rice  
Whole Kernel Corn  
Spice Cake  
Bread/Milk  
Lemon Beverage Powder  
Coffee  
Peanut Butter/Jelly
4. Spaghetti w/Meatballs  
Mixed Vegetables  
Marble Cake  
Pears w/Syrup  
Bread/Milk  
Lemon-Lime Beverage Pwdr.  
Coffee  
Peanut Butter/Jelly
5. Beef Stew  
Buttered Noodles  
Green Beans  
Spice Cake  
Bread/Milk  
Grape Beverage Powder  
Coffee  
Peanut Butter/Jelly

**BREAKFAST**

6. Western Omelet  
Hominy Grits w/Cheese  
and Bacon  
Fruit Cocktail  
Blueberry Cake  
Bread/Milk  
Orange Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
7. Bacon-Cheese Omelet  
Potatoes w/Bacon  
Pieces  
Maple/Brown Sugar Oatmeal  
Applesauce  
Bread/Milk  
Orange Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
8. Eggs/Ham  
Pork Sausage Links  
Apple Coffee Cake  
Peaches w/Syrup  
Bread/Milk  
Orange Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
9. Omelet w/Bacon  
Cornmeal Cereal  
Apple Dessert  
Blueberry Cake  
Bread/Milk  
Grape Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
10. Bread Pudding, Maple  
Flavored w/Ham  
Canadian Bacon  
Spice Cake  
Applesauce  
Bread/Milk  
Orange Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa

**LUNCH/DINNER**

6. Beef in Barbecue Sauce  
Macaroni Salad  
Carrots sliced  
Peaches w/Syrup  
Bread/Milk  
Lemon Beverage Powder  
Coffee  
Peanut Butter/Jelly
7. Chicken A La King  
Buttered Noodles  
Green Beans  
Chocolate Pudding  
Bread/Milk  
Orange Beverage Powder  
Coffee  
Peanut Butter/Jelly
8. Swedish Meatballs in  
Brown Gravy  
Spanish Rice  
Peas w/Mushrooms  
Apple Dessert  
Bread/Milk  
Lemon-Lime Beverage Pwdr.  
Coffee  
Peanut Butter/Jelly
9. Beef Pot Roast w/Gravy  
Macaroni and Cheese  
Peas w/Carrots  
Spice Cake  
Bread/Milk  
Orange Beverage Powder  
Coffee  
Peanut Butter/Jelly
10. Beef Tips w/Gravy  
Rice  
Whole Kernel Corn  
Pears w/Syrup  
Bread/Milk  
Lemon Beverage Powder  
Coffee  
Peanut Butter/Jelly

**BREAKFAST**

11. Omelet w/Sausage and Potatoes  
Corned Beef Hash  
Grits w/Cheese and Bacon  
Apple Cinnamon Oatmeal  
Bread/Milk  
Orange Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
12. Creamed Ground Beef  
Potatoes w/Bacon  
Strawberry Oatmeal  
Pears w/Syrup  
Bread/Milk  
Grape Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
13. Western Omelet  
Canadian Bacon  
Apple Cinnamon Oatmeal  
Fruit Cocktail  
Bread/Milk  
Orange Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa
14. Bacon-Cheese Omelet  
Grits w/Cheese and Bacon  
Blueberry Cake  
Applesauce  
Bread/Milk  
Orange Juice, Instant  
Coffee  
Peanut Butter/Jelly  
Cocoa

**LUNCH/DINNER**

11. Chicken Cacciatore  
Potatoes w/Butter Sauce  
Carrots Sliced  
Blueberry Cake  
Bread/Milk  
Lemon-Lime Beverage Powder  
Coffee  
Peanut Butter/Jelly
12. Beef Strips and Green Peppers  
Rice  
Mixed Vegetables  
Fruit Cocktail w/Syrup  
Bread/Milk  
Grape Beverage Powder  
Coffee  
Peanut Butter/Jelly
13. Barbecue Pork  
Potato Salad  
Peas w/Mushrooms  
Spice Cake  
Bread/Milk  
Lemon-Lime Beverage Powder  
Coffee  
Peanut Butter/Jelly
14. Chili  
Spanish Rice  
Whole Kernel Corn  
Peaches w/Syrup  
Bread/Milk  
Grape Beverage Powder  
Coffee  
Peanut Butter/Jelly

# **FY90 TRAY RATION MENU**

## **BREAKFAST**

1. 8970-01-294-9235  
Western Omelet  
Potatoes w/Bacon Pieces  
Peaches  
Oatmeal, Instant, Assorted  
Bread/Milk  
Orange Juice, Instant  
Coffee/Cocoa
2. 8970-01-295-0338  
Omelet w/Sausage and Potatoes  
Creamed Ground Beef  
Oatmeal, Instant, Assorted  
Blueberry Cake  
Bread/Milk  
Grape Juice, Instant  
Coffee/Cocoa
3. 8970-01-295-0339  
Bread Pudding, Maple  
Flavored w/Ham  
Maple Syrup  
Ham Slices  
Fruit Cocktail  
Apple Coffee Cake  
Bread/Milk  
Orange Juice, Instant  
Coffee/Cocoa
4. 8970-01-295-0340  
Omelet w/Bacon Pieces  
Pork Sausage Links  
Peaches  
Bread/Milk  
Orange Juice, Instant  
Coffee/Cocoa
5. 8970-01-295-0341  
Omelet w/Bacon and Cheese  
Corned Beef Hash  
Pears  
Oatmeal, Instant, Assorted  
Bread/Milk  
Orange Juice, Instant  
Coffee/Cocoa

## **LUNCH/DINNER**

1. 8970-01-294-9230  
Chicken Breast w/Gravy  
Glazed Sweet Potatoes  
Corn  
Pound Cake  
Bread/Milk  
Lemon Beverage Powder  
Coffee  
Peanut Butter/Jelly
2. 8970-01-294-9231  
Lasagna  
Green Beans  
Fruit Cocktail  
Bread/Milk  
Grape Beverage Powder  
Coffee  
Peanut Butter/Jelly
3. 8970-01-294-9232  
Beef Pot Roast  
White Rice  
Mixed Vegetables  
Chocolate Cake  
Bread/Milk  
Grape Beverage Powder  
Coffee  
Peanut Butter/Jelly
4. 8970-01-294-9233  
Barbecue Pork  
Roll  
Macaroni & Cheese  
Peas and Carrots  
Applesauce  
Spice Cake  
Milk  
Cherry Beverage Powder  
Coffee
5. 8970-01-294-9234  
Beef Strips w/Peppers  
Potatoes w/Butter Sauce  
Carrots, Sliced  
Marble Cake  
Bread/Milk  
Orange Beverage Powder  
Coffee  
Peanut Butter/Jelly



**BREAKFAST**

6. 8970-01-295-0342  
Western Omelet  
Pork Sausage Links  
Peaches  
Blueberry Cake  
Bread/Milk  
Coffee/Cocoa  
Orange Juice, Instant
7. 8970-01-295-1148  
Omelet w/Sausage and Potatoes  
Ham Slices  
Fruit Cocktail  
Oatmeal, Instant, Assorted  
Bread/Milk  
Orange Juice, Instant  
Coffee/Cocoa
8. 8970-01-294-9227  
Creamed Ground Beef  
Potatoes w/Bacon Pieces  
Pears  
Oatmeal, Instant, Assorted  
Bread/Milk  
Grape Juice, Instant  
Coffee/Cocoa
9. 8970-01-294-9228  
Western Omelet  
Ham Slices  
Peaches  
Bread/Milk  
Orange Juice, Instant  
Coffee/Cocoa
10. 8970-01-294-9229  
Eggs w/Ham  
Pork Sausage Links  
Oatmeal, Instant, Assorted  
Apple Coffee Cake  
Bread/Milk  
Grape Juice, Instant  
Coffee/Cocoa

**LUNCH/DINNER**

6. 8970-01-295-0333  
Chicken Cacciatore  
Potatoes w/Butter Sauce  
Green Beans  
Chocolate Pudding  
Bread/Milk  
Lemon Lime Beverage Powder  
Coffee  
Peanut Butter/Jelly
7. 8970-01-295-0334  
Hamburger  
Hamburger Roll (not  
unitized)  
Beans w/Bacon Sauce  
Fruit Cocktail  
Milk  
Orange Beverage Powder  
Coffee  
Cheese Spread-36  
Catsup/Relish/Mustard
8. 8970-01-295-0335  
Chili Con Carne  
White Rice  
Corn  
Marble Cake  
Bread/Milk  
Cherry Beverage Powder  
Coffee  
Peanut Butter/Jelly
9. 8970-01-295-0336  
Turkey slices w/Gravy  
Potatoes in Butter Sauce  
Mixed Vegetables  
Blueberry Dessert  
Pound Cake  
Bread/Milk  
Lemon-Lime Beverage Pwdr.  
Coffee  
Peanut Butter/Jelly
10. 8970-01-295-0337  
Beef Tips w/Gravy  
Rice  
Peas & Carrots  
Chocolate Pudding  
Bread/Milk  
Grape Beverage Powder  
Coffee  
Peanut Butter/Jelly

RECORD OF NUTRITIVE VALUES TRATION FY90 REVISED

01/26/89

TOTALS BREAKFAST	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
DAY													
1	585.48	48.37	38.70	12.34	528	1046	7.79	2382	2585	180	4.05	5.88	288
2	482.59	63.26	57.32	12.14	501	1008	10.77	2885	1774	168	4.60	10.08	408
3	547.58	54.66	28.28	10.64	508	926	9.75	2227	1821	131	3.51	5.47	193
4	511.89	49.67	68.74	10.58	461	833	7.16	2320	1708	112	3.97	4.71	300
5	580.34	59.90	45.30	13.31	562	1123	9.73	2791	2658	180	4.85	10.53	290
6	542.08	50.70	65.13	11.67	510	865	8.71	2630	1803	122	4.37	3.10	303
7	531.26	63.50	42.46	11.42	492	985	8.28	2502	2266	167	4.32	8.39	426
8	600.63	49.47	33.25	11.20	463	902	8.15	2081	2100	178	3.18	8.60	77
9	530.61	54.93	33.59	10.66	481	864	7.04	2296	1775	125	3.92	5.59	327
10	427.80	58.68	61.98	11.91	519	1121	9.97	2324	2155	160	3.70	4.16	316
MEAN	534.03	55.31	47.48	11.59	502	967	8.73	2444	2064	152	4.05	6.65	293

MEAL REQUIREMENTS

1/3 AR 40-25	33.33	53.3	267	267	6.0	1667-2334	625-1825	133	5.0
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145

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
1	3600	.047	3680	119	1.52	1.15	10.8	1.05	131	1.78	8.89	205.09	1362	890
2	2590	.033	2650	43	1.32	1.30	8.8	.91	88	2.28	7.08	227.02	1677	842
3	3090		3090	116	1.54	1.29	11.2	1.05	76	1.44	4.58	216.13	1338	855
4	3620	.034	3680	118	1.32	1.11	9.6	.88	70	2.64	4.61	127.20	1326	768
5	3060	.085	3190	116	1.36	1.24	11.0	1.04	100	2.55	6.31	187.98	1399	887
6	3420	.034	3480	118	1.37	1.24	9.8	.90	107	2.48	8.43	181.83	1516	851
7	3300	.036	3360	116	1.57	1.20	8.7	1.09	88	1.46	4.69	170.20	1317	817
8	2110	.010	2130	46	1.32	.99	10.6	.95	84	2.12	3.42	229.73	1416	924
9	3420	.034	3480	118	1.40	1.17	9.8	1.03	111	1.78	7.15	127.75	1033	755
10	3150	.013	3170	113	1.55	1.39	9.0	.86	95	2.48	4.87	183.54	1527	744
MEAN	3136	.036	3191	102	1.43	1.21	9.9	.98	95	2.10	6.00	185.65	1391	833
MEAL REQUIREMENTS														
1/3 AR 40-25			1670	20	0.60	0.73	8.0(N.E.)	0.73	133	1.0	3.3	146.7	1200	

MEAL REQUIREMENTS

1/3 AR 40-25	1670	20	0.60	0.73	8.0(N.E.)	0.73	133	1.0	3.3	146.7	1200
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PERCENT OF CALORIES FROM: PROTEIN - 16 PERCENT  
FAT - 31 PERCENT  
CHO - 53 PERCENT

RECORD OF NUTRITIVE VALUES TRATION FY90 REVISED

01/26/89

TOTALS DINNER	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
DAY													
1	614.38	69.25	52.47	10.50	476	911	6.60	2295	1950	208	3.76	4.88	96
2	641.39	47.42	29.92	10.51	967	833	7.95	1839	1363	175	3.23	7.18	54
3	628.64	80.52	48.43	11.50	467	1042	14.49	2648	1896	214	4.81	10.08	127
4	715.99	57.29	50.72	10.54	726	980	8.78	2876	1633	153	5.17	3.12	77
5	625.37	59.46	36.46	10.22	480	737	8.94	2131	1562	164	3.68	9.75	130
6	747.15	67.24	39.17	11.41	521	740	9.21	2393	2158	228	4.57	6.64	125
7	607.85	65.46	49.08	11.02	721	1106	11.91	2310	2074	145	3.32	3.86	72
8	615.16	66.60	65.14	11.11	478	922	12.49	3338	2080	194	6.45	9.57	136
9	709.47	66.38	68.91	10.30	482	804	9.55	2368	1791	179	4.35	5.99	81
10	669.75	61.64	37.50	11.25	460	867	11.23	2763	1732	204	4.95	8.63	87
MEAN	657.51	64.13	47.78	10.84	578	894	10.12	2496	1824	186	4.43	6.97	99

MEAL REQUIREMENTS  
1/3 AR 40-25

5.0

146

A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
1	1310	2910	55	.89	1.04	26.4	.73	104	1.27	7.80	205.16	1570	952
2	1650	2990	56	.90	1.11	7.1	.44	156	1.34	3.22	172.72	1150	902
3	1380	6840	53	1.18	1.29	20.7	.56	114	2.07	4.36	203.69	1573	973
4	940	11300	40	1.06	1.40	13.4	.45	126	2.30	3.57	212.87	1537	1047
5	2000	8060	53	.82	.94	12.1	.40	131	1.66	3.49	168.86	1241	900
6	2190	3200	53	.77	1.06	18.5	.48	208	1.30	2.93	192.33	1391	1057
7	4210	4210	62	1.65	1.12	12.5	1.61	62	.83	.72	171.68	1390	905
8	1310	1600	53	1.16	1.13	17.4	.46	116	2.36	5.08	226.89	1760	985
9	2000	7700	53	.92	1.09	21.0	.50	122	1.49	7.61	204.62	1704	1060
10	1500	11720	55	1.17	1.05	15.2	.48	107	1.66	4.32	226.88	1492	1007
MEAN	1849	2.805	6053	53	1.05	1.12	.61	124	1.63	4.31	198.57	1481	979

MEAL REQUIREMENTS  
1/3 AR 40-25

1200

PERCENT OF CALORIES FROM:  
 PROTEIN - 17 PERCENT  
 FAT - 29 PERCENT  
 CHO - 54 PERCENT

RECORD OF NUTRITIVE VALUES TRATION FY90 REVISED

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DAY 1 BREAKF	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
WEST OMELET	113.31	16.24	17.62	3.10	77	249	2.39	945	304	24	2.20	1.61	251
POTATO/BACON	107.53	9.51	7.29	2.72	28	165	1.06	688	534	30	1.48	1.57	19
PEACHES	131.03	.74	.17	.40	5	18	.45	10	152	8		.15	
OAT/APPLE/CN	3.78	5.27	2.98	1.07	23	191	1.05	136	500	46	.16	1.20	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
ORANGE JUICE	.22	1.10	.37	.75	18	29	.37	2	380	2	.21		
COCOA BEV PD	.56	1.42	3.51	1.00	34	99	.41	107	246	17			
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	585.48	48.37	38.70	12.34	528	1046	7.79	2382	2585	180	4.05	5.88	288

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
WEST OMELET	570	.034	630	2	.13	.32	2.4	.14	55	.64	6.75	10.38	265	161
POTATO/BACON					.11	.11	3.9	.14	16	.16	.79	30.44	225	158
PEACHES	550		550	5	.02	.03	1.0	.03	5			32.94	136	165
OAT/APPLE/CN	180	.013	200		.18	.04	.4	.04	11		1.20	46.90	236	60
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
ORANGE JUICE	370		370	79	.15	.05	.6	.57	2		.15	19.56	86	22
COCOA BEV PD	1470		1470	24	.66	.06	.1	.00		.15	.15	15.01	97	22
COFFEE INSTA				8	.12	.00	.4	.00				1.10	4	1
MILK LOWFAT	460		460	2	.09	.37	.2	.10	11	.83		10.89	113	227
SUM	3600	.047	3680	119	1.52	1.15	10.8	1.05	131	1.78	8.89	205.09	1362	890

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DAY 2 BREAKF	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
OMLT/SAUSPOT	107.52	19.39	23.50	2.80	55	183	2.59	1038	231	19	2.38	3.21	350
CR GR BEEF	123.67	18.33	12.51	2.28	13	124	2.54	598	260	20	1.31	4.91	39
OAT/STRAWBER	3.61	4.87	2.57	1.15	20	183	.95	142	273	39	.13	.60	
BLUEBRY CAKE	16.92	4.43	8.22	1.17	20	102	1.47	477	95	7	.55	.00	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
GRAPE JUICE	1.25	.75	.25	.45	18	23	.75	30	199	13	.02		
COCOA BEV PD	.56	1.42	3.51	1.00	34	99	.41	107	246	17	.21		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	482.59	63.26	57.32	12.14	501	1008	10.77	2885	1774	168	4.60	10.08	408

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
OMLT/SAUSPOT	480	.022	520		.10	.31	1.3	.11	21	.32	3.21	7.44	319	161
CR GR BEEF					.02	.16	2.9	.07	10	.98	1.15	7.01	214	164
OAT/STRAWBER	180	.010	200		.17	.04	.3	.03	12		1.32	47.81	234	60
BLUEBRY CAKE					.03	.14	1.3	.01	2		1.25	52.60	302	83
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
GRAPE JUICE				9	.06	.05	.4				.15	47.30	194	50
COCOA BEV PD	1470	1.42	1470	24	.66	.06	.1	.57	2	.15		15.01	97	22
COFFEE INSTA				8		.00	.4	.00				1.10	4	1
MILK LOWFAT	460		460	2	.09	.37	.2	.10	11	.83		10.89	113	227
SUM	2590	.033	2650	43	1.32	1.30	8.8	.91	88	2.28	7.08	227.02	1677	842

RECORD OF NUTRITIVE VALUES TRATION FY90 REVISED

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DAY 3 BREAKF	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
BRDPDG/M/HAM	98.29	12.51	7.05	1.88	62	176	2.47	572	248	21	1.38	1.50	117
MAPLE SYRUP	6.72	.00	.00	.20	13	4	1.15	19	1				
HAM SLICES	56.43	21.35	5.16	2.11	4	175	1.35	738	224	21	1.50	2.49	58
FRUIT COCKTL	133.93	.65	.12	.38	10	18	.48	10	147	8		.13	
APL COFFE CK	22.36	3.56	5.31	1.03	25	131	1.45	286	106	9	.41	.00	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
ORANGE JUICE	.22	1.10	.37	.75	18	29	.37	2	380	2			
COCOA BEV PD	.56	1.42	3.51	1.00	34	99	.41	107	246	17	.21		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	547.58	54.66	28.28	10.64	508	926	9.75	2227	1821	131	3.51	5.47	193

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
BRDPDG/M/HAM	450		450		.19	.28	3.1	.09	23	.30	2.40	30.27	235	150
MAPLE SYRUP					.17	.00	.0	.00	0			21.08	84	28
HAM SLICES	340		340	3	.03	.17	3.2	.17	7	.17	.25	.00	132	83
FRUIT COCKTL					.06	.03	.6	.08				31.50	130	167
APL COFFE CK					.19	.15	1.1	.02	2		1.78	48.84	257	81
BREADWHITE					.15	.16	1.8	.02	30			37.88	199	75
ORANGE JUICE	370		370	79	.15	.05	.6	.57	2		.15	19.56	86	22
COCOA BEV PD	1470		1470	24	.66	.06	.1	.00				15.01	97	22
COFFEE INSTA				8	.09	.00	.4	.10				1.10	4	1
MILK LOWFAT	460		460	2	.09	.37	.2	.10	11	.83		10.89	113	227
SUM	3090		3090	116	1.54	1.29	11.2	1.05	76	1.44	4.58	216.13	1338	855

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DAY 4 BREAKF	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
OMELET/BACON	100.04	19.65	29.45	3.18	48	320	2.31	1112	304	21	2.35	3.21	247
BRKF SAUS DR	50.98	12.69	28.49	1.95	13	74	1.56	596	157	11	1.41		34
PEACHES	131.03	.74	.17	.40	5	18	.45	10	152	8		.15	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
ORANGE JUICE	.22	1.10	.37	.75	18	29	.37	2	380	2	.21		
COCOA BEV PD	.56	1.42	3.51	1.00	34	99	.41	107	246	17	.00		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4			
MILK LOWFAT	202.33	7.95	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	511.89	49.67	68.74	10.58	461	833	7.16	2320	1708	112	3.97	4.71	300

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHD (G)	CALORIES	WEIGHT (G)
OMELET/BACON	770	.034	830		.11	.34	3.5	.13	19	.80	4.18	8.34	377	161
BRKF SAUS DR					.11	.11	1.9	.03	2	.86	.29	1.49	313	96
PEACHES	550		550	5	.02	.03	1.0	.03	5			32.94	136	165
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
ORANGE JUICE	370		370	79	.15	.05	.6	.57	2		.15	19.56	86	22
COCOA BEV PD	1470		1470	24	.66	.06	.1	.00				15.01	97	22
COFFEE INSTA				8		.00	.4	.10				1.10	4	1
MILK LOWFAT	460		460	2	.09	.37	.2	.10	11	.83		10.89	113	227
SUM	3620	.034	3680	118	1.32	1.11	9.6	.88	70	2.64	4.61	127.20	1326	768

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DAY 5 BREAKF	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
OMEL/BCN CHZ	101.48	19.76	26.72	3.53	120	341	2.33	1144	288	22	2.20	3.21	252
BEEF HASH	112.68	17.70	4.69	3.40	9	162	3.18	923	599	32	2.21	4.63	20
PEARS	132.80	.33	.21	.25	8	12	.36	8	107	7		.13	
OAT/MAPLE/BS	3.54	5.51	3.04	1.08	29	187	1.01	113	569	47	.22	1.20	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
ORANGE JUICE	.22	1.10	.37	.75	18	29	.37	2	380	2			
COCOA BEV PD	.56	1.42	3.51	1.00	34	99	.41	107	246	17	.21		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	580.34	59.90	45.30	13.31	562	1123	9.73	2791	2658	180	4.85	10.53	290

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
OMEL/BCN CHZ	580	.032	630		.06	.37	2.7	.11	19	.80	3.53	9.16	356	161
BEEF HASH		.039	60	2	.00	.15	4.3	.19	19	.77	1.54	15.88	177	154
PEARS				2	.02	.03	.4	.02	2			31.68	130	165
OAT/MAPLE/BS	180	.014	200		.19	.05	.4	.04	16		1.08	46.83	237	60
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
ORANGE JUICE	370		370	79	.15	.05	.6	.57	2		.15	19.56	86	22
COCOA BEV PD	1470		1470	24	.66	.06	.1	.00				15.01	97	22
COFFEE INSTA				8		.00	.4	.10				1.10	4	1
MILK LOWFAT	460		460	2	.09	.37	.2	.10	11	.83		10.89	113	227
SUM	3060	.085	3190	116	1.36	1.24	11.0	1.04	100	2.55	6.31	187.98	1399	887



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DAY & BREAKF	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
WEST OMELET	113.31	16.24	17.62	3.10	77	249	2.39	945	304	24	2.20	1.61	251
BRKF SAUS DR	50.98	12.69	28.49	1.95	13	74	1.56	596	157	11	1.41		34
PEACHES	131.03	.74	.17	.40	5	18	.45	10	152	8		.15	
BLUEBRY CAKE	16.92	4.43	8.22	1.17	20	102	1.47	477	95	7	.55	.00	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
ORANGE JUICE	.22	1.10	.37	.75	18	29	.37	2	380	2	.21		
COCOA BEV PD	.56	1.42	3.51	1.00	34	99	.41	107	246	17	.00		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4		.88	18
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32			
SUM	542.08	50.70	65.13	11.67	510	865	8.71	2630	1803	122	4.37	3.10	303

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
WEST OMELET	570	.034	630		.13	.32	2.4	.14	55	.64	6.75	10.38	265	161
BRKF SAUS DR					.11	.11	1.9	.03	2	.86	.29	1.49	313	96
PEACHES	550		550	5	.02	.03	1.0	.03	5			32.94	136	165
BLUEBRY CAKE					.03	.14	1.3	.01	2		1.25	52.60	302	83
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
ORANGE JUICE	370		370	79	.15	.05	.6	.57	2	.15	.15	15.01	97	22
COCOA BEV PD	1470		1470	24	.66	.06	.1	.00				1.10	4	1
COFFEE INSTA				8	.00	.00	.4	.00				10.89	113	227
MILK LOWFAT	460		460	2	.09	.37	.2	.10	11	.83				
SUM	3420	.034	3480	118	1.37	1.24	9.8	.90	107	2.48	8.43	181.83	1516	851

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DAY 7 BREAKF	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
OMLT/SAUSPOT	107.52	19.39	23.50	2.80	55	183	2.59	1038	231	19	2.38	3.21	350
HAM SLICES	56.43	21.35	5.16	2.11	4	175	1.35	738	224	21	1.50	2.49	58
FRUIT COCKTL	133.93	.65	.12	.38	10	18	.48	10	147	8		.13	
OAT/MAPLE/BS	3.54	5.51	3.04	1.08	29	187	1.01	113	569	47	.22	1.20	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
ORANGE JUICE	.22	1.10	.37	.75	18	29	.37	2	380	2	.21		
COCOA BEV PD	.56	1.42	3.51	1.00	34	99	.41	107	246	17			
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	531.28	63.50	42.46	11.42	492	985	8.28	2502	2266	167	4.32	8.39	426

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
OMLT/SAUSPOT	480	.022	520		.10	.31	1.3	.11	21	.32	3.21	7.44	319	161
HAM SLICES					.17	.17	3.2	.17	7	.17	.25	.00	132	83
FRUIT COCKTL	340		340	3	.03	.03	.6	.08				31.50	130	167
OAT/MAPLE/BS	180	.014	200		.19	.05	.4	.04	16		1.08	46.83	237	60
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
ORANGE JUICE	370		370	79	.15	.05	.6	.57	2	.15	.15	19.56	86	22
COCOA BEV PD	1470		1470	24	.66	.06	.1	.00			.15	15.01	97	22
COFFEE INSTA				8		.00	.4	.00				1.10	4	1
MILK LOWFAT	460		460	2	.09	.37	.2	.10	11	.83		10.89	113	227
SUM	3300	.036	3360	116	1.57	1.20	8.7	1.09	88	1.46	4.69	170.20	1317	817

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DAY 8 BREAKF	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
CR GR BEEF	123.67	18.33	12.51	2.28	13	124	2.54	598	260	20	1.31	4.91	39
POTATO/BACON	109.88	9.70	7.44	2.78	29	169	1.08	702	545	31	1.51	1.61	19
PEARS	132.80	.33	.21	.25	8	12	.36	8	107	7		.13	
OAT/STRAWBER	3.61	4.87	2.57	1.15	20	183	.95	142	273	39	.13	.60	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
GRAPE JUICE	1.25	.75	.25	.45	18	23	.75	30	199	13	.02		
COCOA BEV PD	.58	1.42	3.51	1.00	34	99	.41	107	246	17	.21		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	600.83	49.47	33.25	11.20	463	902	8.15	2081	2100	178	3.18	8.60	77

A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
CR GR BEEF				.02	.16	2.9	.07	10	.98	1.15	7.01	214	164
POTATO/BACON			2	.11	.11	4.0	.14	16	.16	.80	31.05	230	161
PEARS			2	.02	.03	.4	.02	2			31.68	130	165
OAT/STRAWBER	.010	200		.17	.04	.3	.03	12		1.32	47.81	234	60
BREADWHITE			9	.19	.16	1.8	.02	30			37.88	199	75
GRAPE JUICE				.06	.05	.4	.57	2		.15	47.30	194	50
COCOA BEV PD	1470	1470	24	.66	.06	.1	.00				15.01	97	22
COFFEE INSTA			8	.00	.00	.4	.00				1.10	4	1
MILK LOWFAT	460	460	2	.09	.37	.2	.10	11	.83		10.89	113	227
SUM	2110	2130	46	1.32	.99	10.6	.95	84	2.12	3.42	229.73	1416	924

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DAY 9 BREAKF	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
WEST OMELET	113.31	16.24	17.62	3.10	77	249	2.39	945	304	24	2.20	1.61	251
HAM SLICES	56.43	21.35	5.16	2.11	4	175	1.35	738	224	21	1.50	2.49	58
PEACHES	131.03	.74	.17	.40	5	18	.45	10	152	8		.15	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
ORANGE JUICE	.22	1.10	.37	.75	18	29	.37	2	380	2	.21		
COCOA BEV PD	.56	1.42	3.51	1.00	34	99	.41	107	246	17	.00		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4			
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	530.61	54.93	33.59	10.66	481	864	7.04	2296	1775	125	3.92	5.59	327

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
WEST OMELET	570	.034	630		.13	.32	2.4	.14	55	.64	6.75	10.38	265	161
HAM SLICES				5	.17	.17	3.2	.17	7	.17	.25	.00	132	83
PEACHES	550		550		.02	.03	1.0	.03	5			32.94	136	165
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
ORANGE JUICE	370		370	79	.15	.05	.6	.57	2		.15	19.56	86	22
COCOA BEV PD	1470		1470	24	.66	.06	.1	.00		.15		15.01	97	22
COFFEE INSTA				8	.00	.00	.4	.00				1.10	4	1
MILK LOWFAT	460		460	2	.09	.37	.2	.10	11	.83		10.89	113	227
SUM	3420	.034	3480	118	1.40	1.17	9.8	1.03	111	1.78	7.15	127.75	1033	755

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DAY 10 BREAK	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
HAM EGGS	120.84	20.56	14.55	2.81	63	304	3.07	704	297	22	1.51	1.61	263
BRKF SAUS DR	50.98	12.69	28.49	1.95	13	74	1.56	596	157	11	1.41		34
OAT/APPLE/CN	3.78	5.27	2.98	1.07	23	191	1.05	136	500	46	.16	1.20	
APL COFFE CK	22.36	3.56	5.31	1.03	25	131	1.45	286	106	9	.41	.00	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
ORANGE JUICE	.22	1.10	.37	.75	18	29	.37	2	380	2			
COCOA BEV PD	.56	1.42	3.51	1.00	34	99	.41	107	246	17	.21		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	427.80	58.68	61.98	11.91	519	1121	9.97	2324	2155	160	3.70	4.16	316

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
HAM EGGS	670		670		.11	.45	2.6	.06	35	.64	1.45	1.88	221	161
BRKF SAUS DR					.11	.11	1.9	.03	2	.86	.29	1.49	313	96
OAT/APPLE/CN	180	.013	200		.18	.04	.4	.04	11		1.20	46.90	236	60
APL COFFE CK					.06	.15	1.1	.02	2		1.78	48.84	257	81
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
ORANGE JUICE	370		370	79	.15	.05	.6	.57	2	.15	.15	19.56	86	22
COCOA BEV PD	1470		1470	24	.66	.06	.1	.00		.15	15.01	15.01	97	22
COFFEE INSTA				8		.00	.4	.00			1.10	1.10	4	1
MILK LOWFAT	460		460	2	.09	.37	.2	.10	11	.83		10.89	113	227
SUM	3150	.013	3170	113	1.55	1.39	9.0	.86	95	2.48	4.87	183.54	1527	744

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DAY 1 DINNER	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
CHIX BR/GRVY	163.50	38.03	10.57	2.86	40	369	.89	837	599	47	1.66	2.22	78
GL SW POTATO	120.61	3.38	1.78	1.70	58	46	1.27	332	488	51	.73	.00	
CORN WK D	84.56	3.20	.35	1.03	4	57	.52	221	179	17	.50	.00	0
POUND CAKE	11.52	4.13	23.40	.70	22	72	1.44	295	65	5	.61	.74	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17	.24	.46	
PEANUT BUT	.28	6.30	9.59	.69	9	73	.36	109	144	35	.01	.57	
JELLY	4.85	.13	.02	.03	1	1	.06	7	6	1			
BEVERAGE BSE	.00	.00	.00	.19	0	0	.00	0	0		.00		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4		.88	18
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32			
SUM	614.38	69.25	52.47	10.50	476	911	6.60	2295	1950	208	3.76	4.88	96

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
CHIX BR/GRVY				2	.04	.20	18.4	.38	27	.44	.89	7.04	275	222
GL SW POTATO		.799	1330		.02	.08	.7	.14	5		1.19	42.52	200	170
CORN WK D		.159	270		.01	.05	1.2	.03	7		.11	19.95	96	109
POUND CAKE					.10	.14	1.3	.02	10		4.91	34.70	366	74
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
PEANUT BUT	850	.002	850	17	.44	.02	2.4	.04	14		.70	4.39	129	21
JELLY			0	0	.00	.00	.0	.00				9.15	37	14
BEVERAGE BSE			0	26		.00	.4	.00				37.56	150	38
COFFEE INSTA	460		460	2	.09	.37	.2	.10	11	.83		1.10	4	1
MILK LOWFAT												10.89	113	227
SUM	1310	.960	2910	55	.89	1.04	26.4	.73	104	1.27	7.80	205.16	1570	952

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DAY 2 DINNER	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
LASAGNA	178.01	24.73	13.34	4.85	562	426	4.16	982	492	64	2.39	5.13	36
GREEN BEANS	95.26	1.53	.09	1.08	43	22	.84	236	105	14	.60	.00	
FRUIT COCKTL	133.93	.85	.12	.38	10	18	.48	10	147	8		.13	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
PEANUT BUT	.28	6.30	9.59	.69	9	73	.36	109	144	35	.24	.57	
JELLY	4.85	.13	.02	.03	1	1	.06	7	6	1	.01		
BEVERAGE BSE	.00	.00	.00	.19	0	0	.00	0	0	0			
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	841.39	47.42	29.92	10.51	967	833	7.95	1839	1363	175	3.23	7.18	54

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
LASAGNA		.590	980		.13	.46	1.5	.18	82	.51	2.31	35.58	361	257
GREEN BEANS		.219	360		.02	.06	.2	.02	18		.21	4.68	26	103
FRUIT COCKTL	340		340	3	.03	.03	.6	.08				31.50	130	167
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
PEANUT BUT	850		850	17	.44	.02	2.4	.04	14		.70	4.39	129	21
JELLY		.002	0	0	.00	.00	.0	.00				9.15	37	14
BEVERAGE BSE				26		.00	.4	.00				37.56	150	38
COFFEE INSTA	480		480	2	.09	.37	.2	.10	11	.83		1.10	4	1
MILK LOWFAT												10.89	113	227
SUM	1650	.811	2990	56	.90	1.11	7.1	.44	156	1.34	3.22	172.72	1150	902

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DAY 3 DINNER	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
BEEF POT RST	180.78	47.70	11.33	2.66	30	412	7.55	614	845	57	1.54	7.45	72
RICE	106.90	4.56	8.47	2.33	26	77	2.06	1015	95	15	2.19	.00	15
MIX VEGETBL	91.31	3.07	.46	1.13	29	47	1.02	190	164	17	.46	.00	
CHOC CAKE	15.47	4.69	11.80	1.18	31	139	1.39	219	174	36	.37	.71	21
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
PEANUT BUT	.28	6.30	9.59	.69	9	73	.36	109	144	35	.24	.57	
JELLY	4.85	.13	.02	.03	1	1	.06	7	6	1	.01		
BEVERAGE BSE	.00	.00	.00	.19	0	0	.00	0	0				
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	628.64	80.52	48.43	11.50	467	1042	14.49	2648	1896	214	4.81	10.08	127

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
BEEF POT RST					.02	.52	11.7	.30	27	1.24	1.24	5.96	317	248
RICE					.36	.03	2.7	.05	17		.17	47.75	285	170
MIX VEGETBL		3.261	5430		.03	.05	.7	.03	9		.32	10.70	59	107
CHOC CAKE	70	.019	100		.06	.12	.8	.02	6		1.93	38.31	278	71
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
PEANUT BUT	850		850	17	.44	.02	2.4	.04	14		.70	4.39	129	21
JELLY		.002	0	0	.00	.00	.0	.00				9.15	37	14
BEVERAGE BSE				26			.4	.00				37.56	150	38
COFFEE INSTA	460		460	8	.09	.37	.2	.10	11	.83		1.10	4	1
MILK LOWFAT				2								10.89	113	227
SUM	1380	3.282	6840	53	1.18	1.29	20.7	.56	114	2.07	4.36	203.69	1573	973



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DAY 4 DINNER	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
BBQ PORK	95.01	24.62	25.26	3.33	43	270	2.46	618	718	48	1.67		
HAMBURG ROL	27.20	6.80	4.20		108	66	2.38	482	74	16		.50	
MAC/CHEESE	123.65	10.08	10.80	2.72	232	245	1.20	883	72	22	1.80	1.67	25
PEAS/CARROTS	104.49	3.08	.53	1.36	31	51	1.26	451	184	20	1.17	.00	
APPLESAUCE	140.55	.32	.32	.25	7	12	.62	5	108	5		.07	33
SPICE CAKE	22.73	4.84	5.26	.89	27	115	.68	322	88	7	.52	.00	
BEVERAGE BSE	.00	.00	.00	.19	0	0	.00	0	0	4	.00		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	32		.88	18
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349				77
SUM	715.99	57.29	50.72	10.54	726	980	8.78	2876	1633	153	5.17	3.12	

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
BBQ PORK					.36	.39	7.0	.20	56	1.48	1.31	15.70	389	164
HAMBURG ROL					.40	.26	3.2	.02	30			41.80	232	80
MAC/CHEESE	460	.073	580		.08	.20	1.0	.03	17		.50	19.68	216	167
PEAS/CARROTS		6.132	10220		.08	.05	1.0	.04	6		.72	10.23	58	120
APPLESAUCE	20		20	4	.02	.05	.3	.05	1			35.18	145	177
SPICE CAKE		.013	20		.03	.07	.3	.01	4		1.04	40.73	230	74
BEVERAGE BSE				26								37.56	150	38
COFFEE INSTA	460		460	8	.09	.37	.2	.10	11	.83		1.10	4	1
MILK LOWFAT				2								10.89	113	227
SUM	940	6.218	11300	40	1.06	1.40	13.4	.45	126	2.30	3.57	212.87	1537	1047

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DAY 5 DINNER	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
PEPPER STK V	124.81	29.37	8.06	1.89	10	171	4.09	432	308	30	1.01	6.70	69
POTATO/BTRSC	138.89	3.77	6.61	2.13	52	61	1.13	443	411	27	1.20	.00	10
CARROTS SLIC	104.76	.97	.16	1.10	38	23	.56	323	136	12	.70	1.13	33
MARBLE CAKE	22.73	4.84	5.26	.89	27	115	.68	322	88	7	.52	.00	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
PEANUT BUT	.28	6.30	9.59	.69	9	73	.36	109	144	35	.24	.57	
JELLY	4.85	.13	.02	.03	1	1	.06	7	6	1	.01		
BEVERAGE BSE	.00	.00	.00	.19	0	0	.00	0	0	4	.00		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	32		.88	18
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349				
SUM	625.37	59.46	36.46	10.22	480	737	8.94	2131	1562	164	3.68	9.75	130

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
PEPPER STK V	-				.03	.25	4.4	.13	49	.84	.67	3.40	204	168
POTATO/BTRSC	690	.161	960	0	.02	.03	2.4	.07	15		.17	17.76	146	169
CARROTS SLIC		3.461	5770		.02	.02	.3	.02	8		.90	6.01	29	113
MARBLE CAKE		.013	20		.03	.07	.3	.01	4		1.04	40.73	230	74
BREADWHITE					.19	.16	1.8	.02	30		.70	37.88	199	75
PEANUT BUT	850		850	17	.44	.02	2.4	.04	14			4.38	129	21
JELLY		.002	0	0	.00	.00	.0	.00				9.15	37	14
BEVERAGE BSE			0	26			.4	.00				37.56	150	38
COFFEE INSTA			460	8	.09	.37	.2	.10	11	.83		1.10	4	1
MILK LOWFAT	460			2								10.89	113	227
SUM	2000	3.637	8060	53	.82	.94	12.1	.40	131	1.66	3.49	168.86	1241	900

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DAY 6 DINNER	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
CHIX CACC	177.00	38.30	11.30	2.80	42	153	2.29	873	651	52	2.12	4.72	97
POTATO/BTRSC	138.89	3.77	6.61	2.13	52	61	1.13	443	411	27	1.20	.00	10
GREEN BEANS	95.26	1.53	.09	1.08	43	22	.84	236	105	14	.60	.00	0
CHOC PUDDING	101.82	3.12	4.78	1.40	31	137	2.48	230	372	47	.40	.00	0
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17	.24	.46	
PEANUT BUT	.28	6.30	9.59	.69	9	73	.36	109	144	35	.01	.57	
JELLY	4.85	.13	.02	.03	1	1	.06	7	6	1			
BEVERAGE BSE	.00	.00	.00	.19	0	0	.00	0	0	0			
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00	.88	18
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32			
SUM	747.15	67.24	39.17	11.41	521	740	9.21	2393	2158	228	4.57	6.64	125

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
CHIX CACC		.229	380		.02	.28	10.9	.24	116	.47	.47	6.80	282	236
POTATO/BTRSC	690	.161	960	0	.02	.03	2.4	.07	15		.17	17.76	146	169
GREEN BEANS		.219	360		.02	.06	.2	.02	18		.21	4.68	26	103
CHOC PUDDING	190		190		.00	.12	.3	.00	3		1.39	62.13	304	173
BREADWHITE					.19	.16	1.8	.02	30		.70	37.88	199	75
PEANUT BUT	850		850	17	.44	.02	2.4	.04	14			4.39	129	21
JELLY		.002	0	0	.00	.00	.0	.00				9.15	37	14
BEVERAGE BSE				26		.00	.4	.00				37.56	150	38
COFFEE INSTA	460		460	8	.09	.37	.2	.10	11	.83		1.10	4	1
MILK LOWFAT				2								10.89	113	227
SUM	2190	.610	3200	53	.77	1.06	18.5	.48	208	1.30	2.93	192.33	1391	1057

RECORD OF NUTRITIVE VALUES TRATION FY90 REVISED

01/26/89

DAY 7 DINNER	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
HAMBURGERS	84.81	31.85	17.64	1.78	16	315	4.80	66	765	76	1.04	1.48	8
BAKED BEANS	110.45	11.96	6.41	3.61	130	211	3.39	708	585	16	1.62	.50	
HAMBURG ROL	27.20	6.80	4.20		108	66	2.38	482	74	8		.13	
FRUIT COCKTL	133.93	.65	.12	.38	10	18	.48	10	147	9	.66	.86	46
CHEESE SPRED	18.20	5.62	15.69	1.79	161	255	.18	485	26	73			
CATSUP	13.72	.40	.08	.72	4	10	.16	208	73	16			
MUSTARD	9.62	.56	.53	.52	10	9	.24	150	16				
RELISH	7.56	.06	.07	.23	2	2	.10	85	0				
BEVERAGE BSE	.00	.00	.00	.19	0	0	.00	0	0		.00		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	32		.88	18
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	145	3.32	3.86	72
SUM	607.85	65.46	49.08	11.02	721	1106	11.91	2310	2074				

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
HAMBURGERS					.12	.25	6.9	.12	15		.51	.96	290	137
BAKED BEANS					.10	.12	.8	.02	30			36.25	251	169
HAMBURG ROL					.40	.26	3.2	.08				41.80	232	80
FRUIT COCKTL	340		340	3	.03	.03	.6	1.30	5		.21	31.50	130	167
CHEESE SPRED	3130		3130	22	.88	.08	.0					1.70	170	43
CATSUP	280		280		.02	.01	.3					5.08	23	20
MUSTARD					.00	.00	.0					.77	10	12
RELISH				26	.00	.00	.0					4.08	17	12
BEVERAGE BSE				8	.00	.00	.4	.00				37.56	150	38
COFFEE INSTA	460		460	2	.09	.37	.2	.10	11			1.10	4	1
MILK LOWFAT										.83		10.89	113	227
SUM	4210		4210	62	1.65	1.12	12.5	1.61	62	.83	.72	171.68	1390	905

01/26/89

DAY 8 DINNER	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
CHILI	166.79	33.50	34.70	2.85	69	306	6.76	1169	1100	66	2.99	7.65	69
RICE	106.90	4.56	8.47	2.33	26	77	2.06	1015	95	15	2.19	.00	15
CORN WK D	84.56	3.20	.35	1.03	4	57	.52	221	179	17	.50	.00	0
MARBLE CAKE	22.73	4.84	5.26	.89	27	115	.68	322	88	7	.52	.00	33
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
PEANUT BUT	.28	6.30	9.59	.69	9	73	.36	109	144	35	.24	.57	
JELLY	4.85	.13	.02	.03	1	1	.06	7	6	1	.01		
BEVERAGE BSE	.00	.00	.00	.19	0	0	.00	0	0				
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	615.16	66.60	65.14	11.11	478	922	12.49	3338	2080	194	6.45	9.57	136

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
CHILI					.05	.41	8.4	.20	33	1.53	3.06	17.50	516	255
RICE					.36	.03	2.7	.05	17		.17	47.75	285	170
CORN WK D		.159	270		.01	.05	1.2	.03	7		.11	19.95	96	109
MARBLE CAKE		.013	20		.03	.07	.3	.01	4		1.04	40.73	230	74
BREADWHITE					.19	.16	1.8	.02	30			37.88	199	75
PEANUT BUT	850		850	17	.44	.02	2.4	.04	14		.70	4.39	129	21
JELLY		.002	0	0	.00	.00	.0	.00				9.15	37	14
BEVERAGE BSE			0	26		.00	.4	.00				37.56	150	38
COFFEE INSTA	460		460	8	.09	.37	.2	.10	11	.83		1.10	4	1
MILK LOWFAT				2								10.89	113	227
SUM	1310	.174	1600	53	1.16	1.13	17.4	.46	116	2.36	5.08	226.89	1760	985

RECORD OF NUTRITIVE VALUES TRATION FY90 REVISED

01/26/89

DAY 9 DINNER	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
TURKEY/GRAVY	117.82	34.00	11.80	1.83	13	243	1.99	731	440	33	1.63	3.32	53
POTATO/BTRSC	138.89	3.77	6.61	2.13	52	61	1.13	443	411	27	1.20	.00	10
MIX VEGETBL	91.31	3.07	.46	1.13	29	47	1.02	190	164	17	.46	.00	
BLUEBERRY DES	115.75	.88	10.27	.30	13	13	1.49	99	92	8	.20	.00	
POUND CAKE	11.52	4.13	23.40	.70	22	72	1.44	295	65	5	.61	.74	
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17	.24	.46	
PEANUT BUT	.28	6.30	9.59	.69	9	73	.36	109	144	35	.01	.57	
JELLY	4.85	.13	.02	.03	1	1	.06	7	6	1			
BEVERAGE BSE	.00	.00	.00	.19	0	0	.00	0	0	4	.00		
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	32		.88	18
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349				
SUM	709.47	66.38	68.91	10.30	482	804	9.55	2368	1791	179	4.35	5.99	81

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
TURKEY/GRAVY					.02	.25	11.3	.20	28	.66	.17	.75	245	166
POTATO/BTRSC	690	.161	960	0	.02	.03	2.4	.07	15		.17	17.76	146	169
MIX VEGETBL		3.261	5430		.03	.05	.7	.03	9		.32	10.70	59	107
BLUEBERRY DES					.03	.05	.5	.02	5		1.34	39.75	255	167
POUND CAKE					.10	.14	1.3	.02	10		4.91	34.70	366	74
BREADWHITE					.19	.16	1.8	.02	30		.70	37.88	199	75
PEANUT BUT	850		850	17	.44	.02	2.4	.04	14			4.39	129	21
JELLY		.002	0	0	.00	.00	.0	.00				9.15	37	14
BEVERAGE BSE				26		.00	.4	.00				37.56	150	38
COFFEE INSTA	460		460	8	.09	.37	.2	.10	11	.83		1.10	4	1
MILK LOWFAT				2								10.89	113	227
SUM	2000	3.424	7700	53	.92	1.09	21.0	.50	122	1.49	7.61	204.62	1704	1060

01/26/89

DAY 10 DINNE	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTROL (MG)
BEEF TIPS	122.36	30.38	7.35	1.95	20	235	2.97	457	462	34	.94	6.71	54
RICE	106.90	4.56	8.47	2.33	26	77	2.06	1015	95	15	2.19	.00	15
PEAS/CARROTS	104.49	3.08	.53	1.36	31	51	1.26	451	184	20	1.17	.00	0
CHOC PUDDING	101.82	3.12	4.78	1.40	31	137	2.48	230	372	47	.40	.00	0
BREADWHITE	26.70	6.52	2.40	1.50	63	73	1.88	380	79	17		.46	
PEANUT BUT	.28	6.30	9.59	.69	9	73	.36	109	144	35	.24	.57	
JELLY	4.85	.13	.02	.03	1	1	.06	7	6	1	.01		
BEVERAGE BSE	.00	.00	.00	.19	0	0	.00	0	0				
COFFEE INSTA	.03	.00	.00	.12	2	5	.07	1	41	4	.00		
MILK LOWFAT	202.33	7.55	4.35	1.68	277	215	.11	113	349	32		.88	18
SUM	669.75	61.64	37.50	11.25	460	867	11.23	2763	1732	204	4.95	8.63	87

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
BEEF TIPS				2	.02	.29	6.4	.23	25	.84	1.34	5.81	211	168
RICE					.36	.03	2.7	.05	17		.17	47.75	285	170
PEAS/CARROTS		6.132	10220		.08	.05	1.0	.04	6		.72	10.23	58	120
CHOC PUDDING	190		190		.00	.12	.3	.00	3		1.39	62.13	304	173
BREADWHITE					.19	.16	1.8	.02	30		.70	37.88	199	75
PEANUT BUT	850		850	17	.44	.02	2.4	.04	14			4.39	129	21
JELLY		.002	0	0	.00	.00	.0	.00				9.15	37	14
BEVERAGE BSE			0	26		.00	.4	.00				37.56	150	38
COFFEE INSTA			460	2	.09	.37	.2	.10	11	.63		1.10	4	1
MILK LOWFAT	460											10.89	113	227
SUM	1500	6.134	11720	55	1.17	1.05	15.2	.48	107	1.66	4.32	226.88	1492	1007

**APPENDIX L. MRE Menus and Nutrient Information**



RECORD OF NUTRITIVE VALUES MRE VIII

10/31/88

TOTALS	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
1	256.96	45.51	46.80	8.51	466	659	6.58	1337	1665	120	3.14	4.75	79
2	173.24	46.08	40.91	7.87	421	593	6.50	1487	1319	122	3.38	7.35	105
3	178.53	45.34	50.89	8.87	483	817	4.64	1354	1854	185	2.85	2.43	43
4	263.19	47.81	64.18	11.57	688	1372	5.70	2550	1421	130	4.97	2.20	406
5	204.88	43.39	55.02	9.18	600	696	6.66	2067	1012	108	4.55	3.17	98
6	174.76	53.34	50.37	9.00	445	715	4.97	1603	1548	170	3.21	2.27	84
7	188.91	57.03	55.90	8.37	413	579	6.92	1773	1219	160	3.89	.90	138
8	211.02	44.13	45.92	10.82	515	1125	5.29	2457	1524	128	5.13	2.88	107
9	149.96	55.96	56.60	9.54	413	644	7.86	1922	1484	172	4.35	7.38	66
10	206.50	51.48	56.11	6.90	548	716	5.27	1538	624	106	3.01	.90	111
11	186.86	49.87	53.42	7.98	559	774	5.46	1861	980	106	3.69	2.85	130
12	290.45	38.09	41.63	8.72	435	757	5.51	1714	1498	127	3.62	2.82	66
MEAN	207.09	48.17	51.48	8.94	499	787	5.95	1805	1346	136	3.82	3.32	119

MEAL REQUIREMENTS

1/3 AR 40-25	33.33	53.3	267	267	6.0	1667-2334	625-1825	133	5.0
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	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
1	2930	.004	2940	91	2.65	1.10	10.5	1.84	47	.86	4.14	199.40	1401	557
2	3070	.014	3100	91	2.38	.96	9.8	1.86	85	1.09	4.03	186.08	1297	454
3	4630	2.007	7980	165	3.22	.98	18.7	1.84	122	1.09	3.92	176.73	1346	460
4	6910	.058	7010	116	3.51	1.32	8.8	3.16	84	.92	5.24	151.66	1375	538
5	2910	.578	3870	69	2.17	1.10	10.5	2.06	61	.79	6.41	143.35	1242	458
6	4630	.234	5020	135	3.21	1.01	16.5	1.77	71	.86	3.55	131.09	1191	419
7	1710	1.267	3820	78	2.03	1.01	12.9	.75	74	1.70	6.74	145.82	1314	458
8	3800	.055	3900	91	3.02	1.15	10.4	2.06	25	.76	4.33	162.07	1238	473
9	2200	.023	2240	152	2.38	.98	16.2	.99	72	1.02	8.80	146.30	1318	418
10	3510	.000	3510	67	2.19	.92	11.9	2.01	55	.56	5.96	129.84	1230	451
11	3400	.069	3500	113	2.47	1.00	17.3	2.44	115	.33	3.55	187.42	1310	455
12	3660	.004	3670	92	3.07	1.06	11.5	2.19	61	.63	3.44	186.29	1272	565
MEAN	3613	.359	4213	105	2.69	1.05	12.9	1.91	73	.88	5.01	159.67	1295	478

MEAL REQUIREMENTS

1/3 AR 40-25	1670	20	0.60	0.73	8.0(N.E.)	0.73	133	1.0	3.3	146.7	1200
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PERCENT OF CALORIES FROM: PROTEIN - 15 PERCENT  
FAT - 36 PERCENT  
CHO - 49 PERCENT

RECORD OF NUTRITIVE VALUES - MRE VIII

10/31/88

MENU 1	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
PORK BBQ/RCE	143.68	32.27	25.13	3.81	39	288	3.67	828	796	48	2.06	4.54	79
APPLESAUCE	100.27	.23	.23	.18	5	9	.44	4	77	4		.05	
JELLY	9.70	.26	.05	.05	2	3	.11	13	11	2	.01		
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
CANDY AVER	.77	2.65	4.79	.49	44	41	.44	74	67	11	.16	.16	
COCOA BEV PD	1.10	2.80	6.95	1.99	67	196	.81	211	487	34	.43	.00	
BEVERAGE BSE	.12	2.48	2.98	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB ND	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
TABASCO SCE	.00	.10	.00					2	0	0			
SUM	256.96	45.51	46.80	8.51	466	659	6.58	1337	1665	120	3.14	4.75	79

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
PORK BBQ/RCE	10		10	3	.34	.32	6.4	.27	41	.45	2.49	21.91	443	227
APPLESAUCE				1	.01	.04	.2	.04	1			25.10	103	126
JELLY	0	.004	10	0	.00	.00	.0	.00	0			18.29	75	28
CRACKERS UST		.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
CANDY AVER					.01	.06	.1	.01	1	.30	.43	28.30	167	37
COCOA BEV PD	2920		2920	48	1.31	.11	.2	1.13	5		.30	29.69	192	43
BEVERAGE BSE				15		.01	.8	.00				28.19	150	34
COFFEE INSTA						.03		.00				2.19	9	3
CREAM SUB ND	0	.000	0	0	.00	.00	.0	.00				2.11	19	4
SUGAR						.00	.0	.00				5.97	24	6
TABASCO SCE							.0					4.90	20	5
SUM	2930	.004	2940	91	2.65	1.10	10.5	1.84	47	.86	4.14	199.40	1401	557

10/31/88

MENU 2	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
C BEEF HASH	157.56	29.78	13.08	3.08	25	181	3.40	878	445	34	2.15	6.80	86
PEARS DEMY	.42	.18	.04	.15	4	7	.13	9	71	5	.02	.04	
JELLY	9.70	.28	.05	.05	2	3	.11	13	11	2	.01		
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
OATML CK BAR	3.02	5.86	11.15	.63	14	84	.95	172	75	26	.29	.50	19
COCOA BEV PD	1.10	2.80	6.95	1.99	67	196	.81	211	487	34	.43		
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.08	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB ND	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
SUM	173.24	46.08	40.91	7.87	421	593	6.50	1487	1319	122	3.38	7.35	105

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHD (G)	CALORIES	WEIGHT (G)
C BEEF HASH		.003	10	2	.02	.20	5.2	.32	66	.68	.68	23.34	320	227
PEARS DEMY		.004	10	1	.01	.02	.1	.01	0	.19	.19	14.22	58	15
JELLY		.000	0	0	.00	.00	.0	.00				18.29	75	28
CRACKERS UST		.006	160	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
OATML CK BAR	0				.06	.05	.6	.02	15		1.95	29.33	241	90
COCOA BEV PD	150			48	1.31	.11	.2	1.13	5	.30	.30	29.89	192	43
BEVERAGE BSE	2920			25								28.19	150	34
COFFEE INSTA				15		.01	.8	.00				2.19	9	3
CREAM SUB ND	0	.000	0	0	.00	.03	.0	.00				2.11	19	4
SUGAR					.00	.00	.0	.00				5.97	24	6
SUM	3070	.014	3100	91	2.38	.98	9.8	1.86	88	1.08	4.03	186.08	1287	484

RECORD OF NUTRITIVE VALUES MRE VIII

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MENU 3	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
CHIX STEW	174.30	19.28	10.23	2.72	41	297	1.27	635	671	43	1.29	2.27	43
PEACHES FROM	.36	.70	.07	.30	3	13	.31	9	113	5	.01	.00	
PEANUT BUT	.55	12.61	19.19	1.38	18	147	.71	218	289	70	.48		
CRACKERS UST	.95	4.43	6.58	1.29	261	52	.72	184	72	12	.44		
CANDY AVER	.77	2.65	4.79	.49	44	41	.44	74	67	11	.16	.16	
COCOA BEV PD	1.10	2.80	6.95	1.99	67	196	.81	211	487	34	.43		
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	61	8	.00		
CREAM SUB ND	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
TABASCO SCE	.00	.10	.00					2	0	0			
SUM	178.53	45.34	50.89	8.87	483	817	4.64	1354	1854	185	2.85	2.43	43

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHD (G)	CALORIES	WEIGHT (G)
CHIX STEW		1.948	3250		.05	.18	9.5	.23	86	.68	.45	20.28	250	227
PEACHES FROM		.059	100	44	.01	.02	.5	.01	3		.42	13.56	58	15
PEANUT BUT	1710		1710	33	.87	.04	4.7	.08	27		1.40	8.79	258	43
CRACKERS UST	0	.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
CANDY AVER					.01	.06	.1	.01	1		.43	28.30	167	37
COCOA BEV PD	2920		2920	48	1.31	.11	.2	1.13	5	.30	.30	29.69	192	43
BEVERAGE BSE				25								28.19	150	34
COFFEE INSTA				15		.01	.8	.00				2.19	9	3
CREAM SUB ND	0	.000	0	0	.00	.03	.0	.00				2.11	19	4
SUGAR						.00	.0	.00				5.97	24	6
TABASCO SCE							.0					4.90	20	5
SUM	4630	2.007	7980	165	3.22	.98	18.7	1.84	122	1.08	3.92	176.73	1346	460

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MENU 4	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
HAM OMELET	127.86	22.59	13.00	3.21	44	362	2.28	936	332	26	1.99	1.70	338
POT AU GRAT	111.59	3.69	7.65	2.03	96	373	.37	587	272	14	1.13	.00	10
CHEESE SPR	18.17	5.68	15.77	1.72	158	235	.20	441	26	10	.65		39
CRACKERS UST	.96	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
OATML CK BAR	3.02	5.86	11.15	.63	14	84	.95	172	79	26	.29	.80	19
COCOA BEV PD	1.10	2.80	6.95	1.99	67	196	.81	211	487	34	.43		
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB NO	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
SUM	263.19	47.81	64.18	11.57	688	1372	5.70	2550	1421	130	4.97	2.20	408

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
HAM OMELET	500		500		.24	.39	3.4	.19	51	.51	1.02	3.44	221	170
POT AU GRAT	430	.051	520	1	.04	.11	1.0	.06	10		.85	16.80	151	142
CHEESE SPR	2910		2910	27	.88	.07	.0	1.38	4		.21	1.19	169	43
CRACKERS UST	0	.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
OATML CK BAR	150	.006	160		.06	.05	.6	.02	15		1.95	29.33	241	50
COCOA BEV PD	2920		2920	48	1.31	.11	.2	1.13	5	.30	.30	29.69	192	43
BEVERAGE BSE				25			.8	.00				28.19	150	34
COFFEE INSTA				15		.03	.0	.00				2.11	9	3
CREAM SUB NO				0	.00	.00	.0	.00				5.97	19	4
SUGAR	0	.000	0	0	.00	.00	.0	.00					24	6
SUM	6910	.056	7010	116	3.51	1.32	8.8	3.16	84	.92	5.24	151.66	1375	538

RECORD OF NUTRITIVE VALUES MRE VIII

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MENU 5	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
SPAG/MT SCE	171.37	23.45	7.19	4.29	77	211	3.70	1095	635	48	2.81	2.27	27
CHEESE SPR	18.17	5.68	15.77	1.72	158	235	.20	441	26	10	.65		39
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
MAPLE NJT CK	13.90	6.97	22.40	1.18	56	128	1.67	325	125	30	.61	.90	32
BEVERAG. BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB ND	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
TABASCO SCE	.00	.10	.00					2	0	0			
SUM	204.88	43.39	55.02	9.18	600	696	6.66	2067	1012	108	4.55	3.17	98

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	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
SPAG/MT SCE	2910	.578	960	2	.14	.27	5.2	.27	41	.68	2.49	20.50	241	227
CHEESE SPR	0	.000	2910	27	.88	.07	.0	1.38	4		.21	1.19	169	43
CRACKERS UST	0	.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
MAPLE NJT CK					.17	.19	1.6	.03	16		2.79	45.55	412	90
BEVERAGE BSE				25			.8	.00				28.19	150	34
COFFEE INSTA				15		.01	.0	.00				2.19	9	3
CREAM SUB ND	0	.000	0	0	.00	.03	.0	.00				2.11	19	4
SUGAR						.00	.0	.00				5.97	24	6
TABASCO SCE							.0					4.90	20	5
SUM	2910	.578	3870	69	2.17	1.10	10.5	2.06	61	.79	6.41	143.38	1242	456

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MENU 6	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
CHIC ALAKING	171.52	30.03	14.41	3.27	34	229	1.84	965	415	34	1.82	2.27	84
STRAWBER SW	.13	.70	.16	.37	17	20	.51	5	131	11	.01		
PEANUT BUT	.55	12.61	19.19	1.38	18	147	.71	218	289	70	.48		
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
COCOA BEV PD	1.10	2.80	6.95	1.99	67	196	.81	211	487	34	.43		
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB MD	.30	.28	1.08	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
SUM	174.76	53.34	50.37	9.00	445	715	4.97	1603	1548	170	3.21	2.27	84

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHD (G)	CALORIES	WEIGHT (G)
CHIC ALAKING		.227	380		.05	.27	7.7	.16	32	.45	.68	7.76	281	227
STRAWBER SW		.007	10	14	.01	.01	.3	.02	7		.25	13.63	59	15
PEANUT BUT	1710		1710	33	.87	.04	.47	.08	27		1.40	8.78	258	43
CRACKERS UST	0	.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	48
COCOA BEV PD	2920		2920	48	1.31	.11	.2	1.13	5	.30	.30	28.69	192	43
BEVERAGE BSE				25		.01	.8	.00				28.19	150	34
COFFEE INSTA				15		.03	.0	.00				2.19	9	3
CREAM SUB MD	0	.000	0	0	.00	.00	.0	.00				2.11	19	4
SUGAR						.00	.0	.00				5.97	24	6
SUM	4630	.234	5020	135	3.21	1.01	16.5	1.77	71	.86	3.95	131.09	1191	419

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MENU 7	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
BEEF STEW	169.05	30.51	10.08	3.90	34	207	3.54	1044	599	43	2.41		116
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
PEANUT BUT	.55	12.61	19.19	1.38	18	147	.71	218	289	70	.48		
CHERRY NTCK	17.86	6.62	16.96	1.09	51	104	1.57	304	105	26	.52	.90	23
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB NO	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
TABASCO SCE	.00	.10	.00					2	0	0			
SUM	188.91	57.03	55.90	8.37	413	579	6.92	1773	1219	160	3.89	.90	138

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHD (G)	CALORIES	WEIGHT (G)
BEEF STEW		1.267	2110	5	.05	.25	3.4	.27	34	1.59	1.82	13.46	267	227
CRACKERS UST	0	.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
PEANUT BUT	1710		1710	33	.87	.04	4.7	.08	27		1.40	8.79	258	43
CHERRY NTCK				.13	.14	.14	1.2	.02	13		2.61	47.46	369	90
BEVERAGE BSE				25								28.19	150	34
COFFEE INSTA				15		.01	.8	.00				2.19	9	3
CREAM SUB NO				0	.00	.03	0	.00				2.11	19	4
SUGAR	0	.000	0	0	.00	.00	.0	.00				5.97	24	6
TABASCO SCE						.00	.0					4.90	20	5
SUM	1710	1.267	3820	78	2.03	1.01	12.9	.75	74	1.70	6.74	145.82	1314	456



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MENU 8	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
HAM SLICES	84.07	26.22	5.32	4.21	7	359	1.46	1364	407	27	2.92	2.38	81
POT AU GRAT	111.59	3.69	7.65	2.03	96	373	.37	587	272	14	1.13	.00	10
JELLY	9.70	.26	.05	.05	2	3	.11	13	11	2	.01		
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
BROWN CHCV	3.12	3.97	16.29	.54	34	72	1.44	78	121	30	.16	.50	16
COCOA BEV PD	1.10	2.80	6.95	1.99	67	196	.81	211	487	34	.43		
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00		
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB ND	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
SUM	211.02	44.13	45.92	10.82	515	1125	5.29	2457	1524	128	5.13	2.88	107

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHD (G)	CALORIES	WEIGHT (G)
HAM SLICES					.29	.26	5.1	.21	5	.36	.71	.00	153	119
POT AU GRAT	430	.051	520	1	.04	.11	1.0	.06	10		.85	16.80	151	142
JELLY		.004	10	1	.00	.00	.0	.00				18.29	75	28
CRACKERS UST	0	.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
BROWN CHCV	450		450	1	.40	.09	.4	.27	6	.30	1.55	26.08	267	50
COCOA BEV PD	2920		2920	48	1.31	.11	.2	1.13	5			29.69	192	43
BEVERAGE BSE				25		.01	.8	.00				28.19	150	34
COFFEE INSTA				15		.03	.0	.00				2.19	9	3
CREAM SUB ND	0	.000	0	0	.00	.00	.0	.00				2.11	19	4
SUGAR						.00		.00				5.97	24	6
SUM	3900	.055	3900	91	3.02	1.15	10.4	2.06	25	.76	4.33	162.07	1238	473

RECORD OF NUTRITIVE VALUES - MRE VIII

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MENU 9	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
MEATBLS/RICE	146.81	32.64	15.45	5.40	48	293	4.79	1399	776	52	3.20	6.80	54
FRUIT MX DEH	.42	.49	.13	.23	9	12	.27	6	104	7	.01	.15	
PEANUT BUT	.55	12.61	19.19	1.38	18	147	.71	218	289	70	.48		
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		11
COOKIES CHCV	.74	3.03	12.17	.33	29	70	.99	94	90	22	.17	.43	
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB NO	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
SUM	149.96	55.96	56.60	9.54	413	644	7.86	1922	1484	172	4.35	7.38	66

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
MEATBLS/RICE		.023	40	77	.07	.27	7.3	.25	32	.91	5.44	26.51	376	227
FRUIT MX DEH					.01	.02	.3	.01	6		.15	13.73	58	15
PEANUT BUT	1710		1710	33	.87	.04	4.7	.08	27		1.40	8.79	258	43
CRACKERS UST	0	.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
COOKIES CHCV	490		490	2	.45	.08	.3	.27	7		.89	26.06	226	43
BEVERAGE BSE				25								28.19	150	34
COFFEE INSTA				15		.01	.8	.00				2.19	9	3
CREAM SUB NO	0	.000	0	0	.00	.03	.0	.00				2.11	19	4
SUGAR					.00	.00		.00				5.97	24	6
SUM	2200	.023	2240	152	2.38	.98	16.2	.99	72	1.02	8.80	146.30	1318	418

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MENU 10	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
TUNA/NOODLES	172.10	26.04	8.89	2.02	29	229	2.00	603	220	39	1.36	.00	41
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
CHEESE SPR	18.17	5.68	15.77	1.72	158	235	.20	441	26	10	.65		39
CH NUT CAKE	14.79	12.57	21.79	1.17	51	130	1.98	290	152	37	.52	.90	31
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB ND	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
SUM	208.50	51.48	56.11	6.90	548	716	5.27	1538	624	106	3.01	.90	111

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
TUNA/NOODLES	600		600		.18	.14	6.8	.23	34	.45	2.04	17.76	255	227
CRACKERS UST	0	.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
CHEESE SPR	2910		2910	27	.88	.07	.0	1.38	4		.21	1.19	189	43
CH NUT CAKE					.14	.14	1.4	.02	17		2.79	39.68	406	90
BEVERAGE BSE				25			.8	.00				28.19	150	34
COFFEE INSTA				15		.01	.8	.00				2.19	9	3
CREAM SUB ND	0	.000	0	0	.00	.03	.0	.00				2.11	19	4
SUGAR					.00	.00	.0	.00				5.97	24	6
SUM	3510	.000	3510	67	2.19	.92	11.9	2.01	55	.56	5.96	129.84	1220	451

RECORD OF NUTRITIVE VALUES NRE VIII

10/31/88

MENU 11	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
CHIX/RICE	165.18	30.62	10.95	2.95	16	293	2.43	1039	458	36	2.22	2.27	79
PEACHES FROM	.36	.70	.07	.30	3	13	.31	9	113	5	.01	.00	
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
CHEESE SPR	18.17	5.68	15.77	1.72	158	235	.20	441	26	10	.65	.43	39
COOKIES CHCV	.74	3.03	12.17	.53	29	70	.99	94	90	22	.17	.16	11
CANDY AVER	.77	2.65	4.79	.49	44	41	.44	74	67	11	.16		
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB ND	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
SUM	186.66	49.87	53.42	7.98	559	774	5.46	1861	980	106	3.69	2.85	130

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
CHIX/RICE		.059	100	44	.14	.20	12.7	.39	100	.23	.68	17.10	289	227
PEACHES FROM		.000	0	0	.01	.02	.5	.01	3		.42	13.56	58	15
CRACKERS UST	0		0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
CHEESE SPR	2910		2910	27	.88	.07	.0	1.38	4		.21	1.19	169	43
COOKIES CHCV	490		490	2	.45	.08	.3	.27	7		.89	26.06	226	43
CANDY AVER				25	.01	.06	.1	.01	1		.43	28.30	167	37
BEVERAGE BSE				15		.01	.8	.00				28.19	150	34
COFFEE INSTA						.03	.0	.00				2.19	9	3
CREAM SUB ND	0	.000	0	0	.00	.00	.0	.00				2.11	19	4
SUGAR						.00		.00				9.97	24	6
SUM	3400	.059	3500	113	2.47	1.00	17.3	2.44	115	.33	3.68	187.42	1910	459

10/31/88

MENU 12	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
HAM/POTATOES	174.82	23.63	8.46	3.97	18	356	1.61	1204	576	36	2.54	2.27	50
APPLESAUCE	100.27	.23	23	.18	5	9	.44	4	77	4		.05	
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
JELLY	8.70	.26	.05	.05	2	3	.11	13	11	2	.01		
BROWN CHCV	3.12	3.97	16.29	.54	34	72	1.44	78	121	30	.16	.50	16
COCOA BEV PD	1.10	2.80	6.95	1.99	67	196	.81	211	487	34	.43		
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB NO	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
SUM	290.45	38.09	41.63	8.72	435	757	5.51	1714	1498	127	3.62	2.82	66

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
HAM/POTATOES	280		280		.36	.25	7.0	.36	50	.23	.68	15.92	234	227
APPLESAUCE	10		10	3	.01	.04	.2	.04	1			25.10	103	126
CRACKERS UST	0	.000	0	0	.98	.83	2.8	.38	0	.11	.91	32.75	199	45
JELLY	10	.004	10	1	.00	.00	.0	.00				18.28	75	28
BROWN CHCV	450		450	1	.40	.09	.4	.27	6	.30	1.55	26.08	267	50
COCOA BEV PD	2920		2920	48	1.31	.11	.2	1.13	5		.30	29.69	192	43
BEVERAGE BSE				25								28.19	180	24
COFFEE INSTA				15		.01	.8	.00				2.18	9	3
CREAM SUB NO	0	.000	0	0	.00	.03	.0	.00				2.11	19	4
SUGAR						.00		.00				5.97	24	6
SUM	3660	.004	3670	92	3.07	1.06	11.5	2.19	61	.63	3.44	186.29	1272	568

RECORD OF NUTRITIVE VALUES MRE VIII

10/31/88

ALT 1	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
FRANKFURT	84.97	15.10	20.63	2.46	19	112	1.65	899	201	14	1.92	2.10	60
POTATO	116.33	3.56	5.43	1.83	43	57	1.05	371	352	24	.96		9
PEACHES	101.15	.57	13	.31	4	14	.34	8	117	6		.11	
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
CHEESE SPR	18.17	5.68	15.77	1.72	158	235	.20	441	26	10	.85		39
CANDY AVER	.77	2.65	4.79	.49	44	41	.44	74	67	11	.16	.16	
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB NO	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
SUM	302.84	34.75	56.41	8.79	576	581	4.77	1997	988	86	4.17	2.37	107

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
FRANKFURT	580	.135	800	16	.05	.16	2.9	.09	7	.73	.52	1.84	253	105
POTATO	420	.000	420	0	.01	.03	2.4	.06	7		.14	14.60	121	142
PEACHES	0	.000	0	0	.01	.03	.8	.03	4			25.43	105	128
CRACKERS UST	0	.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	199	45
CHEESE SPR	2910		2910	27	.88	.07	.0	1.38	4		.21	1.18	169	43
CANDY AVER				25	.01	.06	.1	.01	1		.43	28.30	167	37
BEVERAGE BSE				15		.01	.8	.00				28.18	150	34
COFFEE INSTA				0	.00	.03	.0	.00				2.19	9	3
CREAM SUB NO	0	.000	0	0	.00	.00	.0	.00				2.11	19	4
SUGAR						.00		.00				5.97	24	6
SUM	3910	.135	4130	87	1.95	.91	9.9	1.95	24	.84	2.22	142.56	1217	545

10/31/88

ALT 2	WATER (G)	PROTEIN (G)	FAT (G)	ASH (G)	CALCIUM (MG)	PHOS (MG)	IRON (MG)	SODIUM (MG)	POTASS (MG)	MAGNESIUM (MG)	NACL (G)	ZINC (MG)	CHOLESTEROL (MG)
CHILI MAC	167.85	22.91	10.64	3.52	45	256	4.08	837	644	48	2.06	4.54	57
PEARS	102.51	.26	.17	.19	6	9	.28	6	83	5		.10	
PEANUT BUT	.95	12.61	19.19	1.38	18	147	.71	218	289	70	.48		
CRACKERS UST	.95	4.43	5.58	1.29	261	52	.72	184	72	12	.44		
CANDY AVER	.77	2.65	4.79	.49	44	41	.44	74	67	11	.16	.16	
COCOA BEV PD	1.10	2.80	6.95	1.99	67	196	.81	211	487	34	.43		
BEVERAGE BSE	.12	2.48	2.99	.22	36	33	.12	2	2	0	.00	.00	
COFFEE INSTA	.06	.00	.00	.24	4	10	.14	2	81	8	.00		
CREAM SUB MD	.30	.28	1.09	.22	7	28	.11	16	71	1	.03		
SUGAR	.00	.00	.00	.03	0	0	.01	0	0	0	.00		
SUM	274.23	48.41	51.39	9.56	490	771	7.42	1551	1796	189	3.61	4.80	57

1-2

	A (IU)	CAROTENE (MG)	TOTAL A (IU)	C (MG)	B1 (MG)	B2 (MG)	NIACIN (MG)	B6 (MG)	FOLACIN (MCG)	B12 (MCG)	E (MG)	CHO (G)	CALORIES	WEIGHT (G)
CHILI MAC		.796	1330	2	.14	.29	5.7	.48	68	1.13	1.36	21.89	275	227
PEARS				1	.01	.03	.3	.01	2			24.46	100	128
PEANUT BUT	1710		1710	33	.87	.04	4.7	.08	27		1.40	8.79	288	43
CRACKERS UST	0	.000	0	0	.98	.53	2.8	.38	0	.11	.91	32.75	198	46
CANDY AVER					.01	.06	.1	.01	1	.30	.43	28.30	167	37
COCOA BEV PD	2920		2920	48	1.31	.11	.2	1.13	5		.30	29.69	192	43
BEVERAGE BSE				25		.01	.8	.00				28.19	150	34
COFFEE INSTA				15		.03		.00				2.19	9	3
CREAM SUB MD	0	.000	0	0	.00	.00	.0	.00				2.11	19	4
SUGAR						.00		.00				5.97	24	6
SUM	4630	.796	5960	124	3.32	1.11	14.6	2.09	103	1.54	4.40	184.34	1394	598

- NOTE 1: CARBOHYDRATE HAS BEEN COMPUTED BY DIFFERENCE
- NOTE 2: COCOA BEVERAGE POWDER, CHEESE SPREAD AND THE COATINGS FOR OATMEAL COOKIES AND BROWNIES ARE FORTIFIED WITH VITAMIN A, ASCORBIC ACID, THIAMIN AND PYRIDOXINE. PEANUT BUTTER IS FORTIFIED WITH VITAMIN A, ASCORBIC ACID AND THIAMIN. COFFEE IS FORTIFIED WITH ASCORBIC ACID. CRACKERS ARE FORTIFIED WITH CALCIUM CARBONATE, THIAMIN, RIBOFLAVIN, NIACIN AND PYRIDOXINE.
- NOTE 3: CALORIES HAVE BEEN COMPUTED USING 4, 9, 4, CALORIE FACTORS.
- NOTE 4: NO ADJUSTMENTS HAVE BEEN MADE TO COMPENSATE FOR NUTRITIONAL LOSSES DURING STORAGE.
- NOTE 5: BLANKS IN COLUMNS REPORTING NaCl, ZINC, CHOLESTEROL, FOLACIN, VITAMINS B12 AND E DATA INDICATE MISSING DATA, NOT ZERO VALUES.



# REAL, CANDY-TO-EAT CANDIES

	WATER	PROTEIN	FAT	ASH	CA	PHOS	IRON	SODIU	POTASS	MAGNES	NACL	ZINC
CARAMELS	1.31	1.29	3.36	0.53	39	32	0.27	141	67	5	0.33	0
M&MS	0.6	6.67	10.7	0.84	87	88	0.52	73	132	28	0.15	0.48
CHARMS	0.4	0	0.31	0.09	6	2	0.54	9	1			
AVERAGE	0.77	2.65	4.79	0.49	44	41	0.44	71	33	11	0.16	0.16
A CARO TOTAL A												
			C	B1	B2	NIAC	B6	FOLACIN	B12	E	CHO CAL WT	
CARAMELS				0.01	0.05	0.1	0.01	0		0.14	28.51	149 35
M&MS				0.02	0.12	0.3	0.01	4		0.15	29.17	240 48
CHARMS			0	0	0	0	0	0			27.56	113 28
AVERAGE				0.01	0.06	0.1	0.01	1		0.43	10.51	167 37

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